

**Analysis of the Archaeological
Collections of the
Kingston Public Library
Local History Room: Cram and Allerton
Site Collections**

Prepared for the
Kingston Public Library

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ABSTRACT

The Kingston Public Library Local History Room currently curates two archaeological collections from the Town of Kingston, Massachusetts. A total of 4321 items are present in the Kingston Public Library Local History Room collection. This material comes from two collections, that recovered by Lester and John Cram from the Smelt Pond area of Kingston and an assemblage of artifacts from the Allerton site that was excavated by the late Dr. James Deetz in 1972. The Cram collection represents an atypical avocational archaeologist collections in the sense that the collector was apparently very conscientious, careful and thorough in the collection of a wide range of material from the excavations. The collections were cataloged and analyzed to identify the sites, the types of artifacts, their temporal associations, the raw materials used to make them and to identify any significant trends in the collection indicating collector bias or real archaeological trends. Cram collection artifacts were found to date from possibly the Paleo-Indian through seventeenth century with the majority of the artifacts dating to the Late Archaic and Late Woodland periods. The Allerton Site collection was found to contain artifacts recovered by James Deetz during his excavation of the Allerton Site in 1972. Both collections were found to contain a wide range of artifacts and materials and add to our knowledge of the Pre-Contact and seventeenth century history of Kingston.

I. Introduction

The Kingston Public Library Local History Room currently curates archaeological materials recovered from the town. The material present at the library consists of an extensive collection of Pre-Contact and early historic material collected by John and Lester Cram, and a smaller collection of Pre-Contact and late seventeenth century recovered by the late Dr. James Deetz at the C-21/ Allerton-Cushman site.

A total of 4321 items (both artifacts and natural pieces) are present. The number of pieces in each collection can be broken down as follows:

Cram Collection	4200
Allerton Site	121

The entire collection was analyzed with the following objectives:

- 1) identify the types of artifacts
- 2) identify the temporal associations
- 3) identify the materials
- 4) identify any significant trends in the collection
- 5) place the collection within a larger framework of the town archaeological record and New England prehistory

As each artifact was analyzed, the following characteristics were noted where applicable: completeness, size, type, color, material, unusual wear/characteristics. Flakes, cores and shatter were counted, and the characteristics of color, material, and the stage of lithic reduction represented by the artifact (decoration, primary, secondary) were noted.

It was known that these individual collections were the result of unsystematic collection procedures which probably were carried out in much the same way that most surface collections are. That is, the sites were walked over after rains, storms or ground disturbance (erosion, construction) and the artifacts that caught the collector's eye were recovered. Collection practices such as these result in what the MHC has identified as quantitative and qualitative biases in the collection contents, essentially meaning that every site represented in a collection is represented by only a sample of the entire amount of artifacts possibly present (MHC 1980). These samples are formed by the collectors using both conscious and unconscious selection criteria such as the where the sites originate from, raw materials, the fragility of the artifact, the collector's hunting territory, access to the site, the size of the site and collector bias. .

The origin of the collection, surface collection versus excavation, will affect the types, sizes and numbers of artifacts present in a collection. Surface collections are usually from disturbed sites and are exposed as the result of plowing, construction or erosion. They represent incomplete samples due to the fact that they were collected only because they happened to be visible on the particular day(s) that the site was collected. They are dramatically affected by collector bias, their unsystematic collection nature and the fact that no features are normally represented in the collection only artifacts.

Specific individual collector bias is probably the greatest factor affecting the materials represented in a collection. Collectors often tend to focus on large, durable, easy to recognize items with exotic items being more sought after and collected. Artifacts that the professional archaeologist views as integral to interpreting and understanding a site such as broken bifaces, chipping debris, pottery and faunal

remains are usually under represented due to the fact that collectors often do not know the value of these artifact classes and because of differential breakage. This results in projectile points and lithic artifacts being over represented in a collection. As most collections are from disturbed contexts, the most fragile artifacts, shell, bone, pottery, tend to be easiest destroyed and be poorly represented for the collector. Some collector go to the extreme of only keeping whole artifacts and one will never find a broken point in their collections. Collector bias includes the collecting territories of the individual collector. Collectors may return to the same site over again or they may be the type of collector who moves around to many locations. The collector's site location criteria are related to this as well. Each collector has a different set of conscious or unconscious criteria they use when deciding where to hunt. Some may favor hills, or the coast or sand pits while other favor flat open areas or stream banks..

The raw material that the artifacts are made of can have a important impact on the make up of the collection. The visibility of material leads to collections having the tendency to be over representative in the presence of materials such as quartz and exotic lithics like chert, jasper or chalcedony. The more that a lithic material contrasts with the surrounding soil, the more likely it is that it will be collected.

Other factors affecting where and why collectors collect are site access with readily accessible sites more often hunted than more remote ones. The general preference for plowed fields due to the high visibility in these areas. This results in an over representation of material from fertile lowlands and flood plains of major rivers. The site size as large sites with wide horizontal distribution tend to be hunted more than small centralized sites.

All of these collector biases and factors affecting what was collected and where it was collected from, result in problems with interpreting the value of a collection to contribute to our understanding of a town's prehistory. Some of the problems that result from unsystematic collection are chronological because collections often only represent a fraction of the sites occupational sequence some components are usually absent due to differential exposure or small sample size. The lack of specific provenance information because often collections are simply labeled as whatever town they came from with no site data or if site data is present it is usually of a vague sort. Finally, because there was no systematic manner in which the site was collected and no way to really be sure that what is present in a collection represents a valid random sample of what was at the site, then we have to watch for the danger of negative information. Just because it isn't in the collection doesn't mean that it wasn't there. Many sites contain small components of a wide variety of time periods due to the fact that if the areas was attractive 10,000 years ago, it was probably attractive 9000 years ago, 8000 years ago and so on. The very nature of sites from some time periods, like those of the Paleo-Indian period or specialized activity sites, tend to be small and short term resulting in a low degree of visibility but a high degree of focus. Sites such as these occupy a small discrete area and contain a low number of artifacts, a scenario resulting in them being easily missed even during systematic testing and especially during surface hunting.

A. The John Cram Collection

John Cram was born and raised in Kingston where he began collecting artifacts at age seven (KPL 2003: 1). Cram's main study and collecting areas were the Smelt Brook Valley, Rocky Nook and the Bay Farm. What he considered his most significant find was a copper artifact that he identified as a bronze Norse ax that now resides at the Jabez Howland House in Plymouth (KPL 2003: 1). Objects in the collection may have also come from John's father Lester who was known as a member of the Massachusetts Archaeological Society and an avid digger. It is likely that Lester took John on his first digs and it is likely that the two worked together throughout the years.

It is known that Lester Cram excavated numerous sites along the Smelt Brook valley. These include the Resnick Site (MAS number M41NW-3) and the Williams Site (MAS number M41NW-4). Artifacts from both of these sites are likely represented in the Kingston Public Library Local History Room collection. The Resnick Site was excavated around 1960 by Lester Cram and his son John. An unpublished report by Russell Holmes on file at the Kingston Public Library Local History Room, states that the Resnick Site collection was intact in one collection, presumably that of Lester Cram. According to Holmes, materials recovered from this site included large and small triangular points, ceramic potsherds, side-notched #3 points, a group of bone projectiles in a cache and shell remains (Holmes 11). All these items were recovered from what Cram identified as the "upper level". Material recovered from the "middle and lower levels" included many large and small pieces of steatite vessels, small eared points, corner removed #7 points, diamond type points and tapered stem points. No ceramic remains were recovered from the middle and lower levels (Holmes 11). The numerous steatite fragments recovered included many large pieces that had been found in the lower levels, situated close together (Cram 1977: 2).

Appreciable amounts of shell, bone and graphite were recovered, as well as firepits with burnt stone (Holmes 12). Excavation at the site sometimes reached over six feet in depth due to erosion from higher ground to the west and northwest. The fact that this site lay on the second terrace up from the brook and was speculated by Holmes to have been the reason for their settlement at this location. He believed that this site may represent a winter camp located on the second terrace on the west side of the brook where it would be protected from the winter winds (Holmes 13). One spear point over 5" long was also recovered, as well as several bone points which were all found in one concentration (Cram 1977: 2).

The Williams Site was excavated by Cram in the 1930s and was located between Smelt Brook and the present day Smith Lane. Cram identified it as a "small kitchen midden or shell heap site" (Holmes 13). It was reported by Holmes that Cram stated that the site had never been plowed (Holmes 13). The midden was reported to be several feet deep, that was packed almost solid in some places.

Artifacts recovered included several species of shellfish such as quahog, clam and oyster, the oyster and quahog being found predominantly in the deepest portions of the midden; abundant bone remains including some that were decorated with incised lines, bone needles and a bone comb; thin-walled shell-tempered pottery fragments with decoration; and stone projectile points drills and scrapers. The projectile points were of the large and small triangular and stemmed varieties. Little steatite and no gouges or heavy wood working tools were recovered (Holmes 14).

Numerous features were found including two graves, one of a small child containing a complete pottery vessel filled with shells and one adult male with no artifacts present. Cram reported that he recovered the pot and reburied the bones at the site (Cram 1977: 1). The bones of the adult male were donated to a professor in Duxbury (Cram 1977: 2). One clay-lined pit filled with charred acorns was found as were five to six circular fire pits and many pieces of fire-cracked rock (Holmes 14).

Cram considered the site important enough to contact Warren K. Moorehead. It was reported that Moorehead conducted an excavation here, with the unfortunate outcome being that the site was looted with many artifacts being recovered and subsequently sold (Holmes 14)

B. Allerton Site

The Allerton site, located in Kingston, was excavated by Deetz in 1972. The site has achieved major importance because of its early date, placed at 1630-1650, even though it was only partially excavated. The form of house construction, a modified post in ground, is the only example of the type in New England and resulted in the use of this building form in houses constructed in Plimoth Village during the mid to late 1970s.

What was uncovered from the site was the floor plan for the first earthenfast house recognized as such in the former Plymouth Colony. Local legend stated that the site formerly belonged to Isaac Allerton and then to his daughter Mary and her husband Thomas Cushman. This local legend was substantiated by documentary searches as early as 1939 and was reaffirmed by Dr. James Deetz. . The stains in the soil revealed a home 20 by 22 feet oriented northwest to southeast with a cobble stone hearth located in the middle of the east wall. Large post hole up to 12 inches in diameter at the four corners outlined the house. It is known from documentary research that Allerton and others were granted land here in 1627 but the grant stipulated that no one was allowed to move out of the Plantation itself and live on their land for four years. As a result of this law, Allerton probably first moved onto the site in 1631/2 and lived there until he left the colony in 1634. Aside from the posthole pattern and hearth, the evidence left by the Allerton family is scant at the site. The land passed through various hands of people who lived in the Jones River area until it was acquired by Thomas and Mary Cushman in 1653. The Cushmans had been living directly across from the site on the North side of the river probably since they were married in 1636. In 1653 it appears that they relocated their home to the former Allerton property and built their new home directly on the remnants of the earlier house . The Cushmans lived here with their children, partially digging a palisade trench but apparently never completing it and digging a cellar hole directly into the center of Allerton's earlier house. It is not known how large the Cushman's house was, but judging from the cellar hole's size and the architectural styles of the day, it probably was of a square design which appears to be based on the earlier houses built by the colonists. The Cushman's continued to live at the site until Thomas' death in 1691 when the land was given to one of his sons. The house itself either eventually fell apart or was dismantled and no one ever lived at the site again until 1972.

Perhaps one of the most colorful characters of the Pilgrim venture, Isaac Allerton was both a shrewd business man and a self-serving entrepreneur. He was originally chosen to be the Plimoth colony's financial representative to England but was eventually relieved of that post after numerous personal money making deals. He left the Plantation early in the 1630s at a time when many people were moving out and appears to have lived in present day Kingston, just north of Plymouth. It is recorded in the 1635 or 1636 that he had land and a house in Kingston, but by 1638 he had sold or given the land to Thomas Prence, an associate of his. He then moved to New Amsterdam and lived there the rest of his life. The land in Kingston exchanged hands but eventually was in 1653 sold to Thomas Cushman and his wife Mary, the daughter of Isaac Allerton. The couple lived there until 1693 when Thomas died. It appears that people stopped living at the site at this time. The house was probably arrived and reused and the cellar hole was filled in. So the story of the Allerton site is not one that primarily concerns Isaac Allerton, who does not appear to have had a significant impact on the site itself, but is one which more appropriately concerns the second generation of Allerton descendants and the Cushmans.

II. Collection Analysis: Background Context

The sites present in the Kingston Public Library Local History Room collection can be characterized as representing collections made with a moderate degree of collector bias. Lots of chipping debris is present, a large amount of faunal material and shellfish remains and an appreciable amount of pottery. There are also broken projectile points and biface fragments, so John Cram was not just looking for whole pieces.

It is believed that the collection from the Kingston Public Library Local History Room can be used to test the following hypothesis:

- 1) Certain lithic materials were preferred or more often used at certain periods than other materials
- 2) Comparison of the collections with those on file at the Massachusetts Historical Commission will help to determine if these collections fit in with the information provided by the site files or if they are at odds with it.

This report begins with a brief description of the prehistory of the Kingston area as it relates to New England prehistory including settlement trends, the common types of projectile points and artifacts recovered and the types of raw materials commonly used.. A description of each collection follows and then a tabulation and comparison of the Kingston collections with the MHC site files.

A. New England Pre-Contact Period

New England has a rich and extremely interesting Pre-Contact period. Archaeology has contributed a great deal to our understanding of the Native history of New England, without it our picture of the past would, unfortunately be only a sketch. Unfortunately, archaeology can only give us only a bare bones look at the lives of the people who have lived in New England in the Pre-Contact past. We can never answer questions like what was a man thinking when he made a certain projectile point style, or what did a woman think about when she made a pot. We can only theorize and guess at these sort of details. But through archaeology, we have been able to learn when people first arrived in Southeastern Massachusetts and how they made a living.

Because archaeology relies on the material that is recovered from the soil, we are limited to how much we can ever really know about the most ancient people. So we must try to say something archaeologically meaningful from the scant bits of evidence that have survived. Unfortunately, the farther back in time we travel, the more scarce our evidence becomes. This is due to the fact that there were less people in the area in the past and some sites have been flooded by rising sea levels. Bearing this in mind, the following is a sketch of what happened in the past, always being added to and never complete.

1. Paleo Period 13,000-10,000 BP

Although there is new research being conducted all the time, the present theory is that the people who first settled in New England arrived in the New World during the end of the Wisconsin ice age, approximately 13,000 years ago. Before this time, New England and much of the northern half of the United States was covered by a mile and a half thick sheets of ice called glaciers. Ice ages are part of the Earth's natural warming and cooling cycle. Approximately 60,000 years ago for some unknown reason, the temperature dropped on Earth just a few degrees, just enough to cause the glaciers and ice caps located at the north and south poles to begin removing water from the oceans and growing. By approximately 20,000 years ago the edges of the northern ice sheet had reached its maximum extent,

present day Martha's Vineyard and Nantucket, and began to recede. As the glaciers melted, they dropped millions of tons of sand, gravel and boulders that had accumulated during their journey southward. All this material, the moraine and outwash soils, became the sandy hills, the drumlins, eskers and kames, and basically all the lower layers of soil that make up our landscape today. Mixed in with the moraine and outwash were glacial erratics, these are the large boulders, like Plymouth Rock, that dot our landscape today.

Following the retreat of the glaciers, the climate in southern New England was a southern tundra. It was cold, windy and barren and covered with large areas of wetlands. Scattered intermittently across the landscape were patches of grasses, shrubs such as sedge, alder and willow, and small stunted trees including spruce followed by birch and pine. There was also a lot more landscape than there is today because the oceans were approximately 300-400' feet lower than they are today. In New England, this meant that the coastline was up to 50 miles to the east of its present position. This left exposed large portions of land, like George's Banks, that are today underwater. The islands that we see today in many coastal harbors, were at this time hills on a barren landscape and many of the rivers that we know today were nothing more than springs or small streams.

Kingston is a coastal town located to the immediate north of Plymouth whose major drainage is the Jones River. The Jones River was formed at the end of the last ice age, approximately 12,000 years before present, as a result of the draining of Glacial Lake Taunton. Glacial Lake Taunton, at its height, covered a total area of 500 square miles and was centered in present day Taunton, Massachusetts with its shores extending almost as far east as Kingston, to Fall River in the south, and as far north as Bridgewater (Skehan 2001:63). At the end of the ice age, the Cape Cod lobe of the glacier formed a dam at least as far south as the Jones River valley, effectively blocking the outflow (Skehan 2001: 64). Another dam blocked the southern edge at Fall River. The ice melt in the north occurred first, and opened the Jones River outlet.

The types of animals that were present at this time included some of the smaller species such as foxes and rabbits, but megafauna were also present. Megafauna is a term that describes the large breeds of animals that were present in New England after the last ice age. These included the mammoth, which existed on the tundra, the mastodon, which lived in the early forests, the horse, which later became extinct and was reintroduced by the Spanish in the 1500s, bears like the large Kodiak variety, beavers up to 6' long, bison, elk, caribou and musk ox, which disappeared fairly early.

In southeastern Massachusetts, sites that date to this period have been encountered in Plymouth on the Eel River and on the coast in Marshfield.. At these sites, the evidence of people living here after the last ice age has consisted predominantly of stone projectile points of a variety called the Paleo or fluted point. These points were generally made from exotic materials that were carried in by the inhabitants as they traveled from the west. These materials predominantly very fine grained stones including cherts from New York and Maine and jaspers from Pennsylvania. Population densities have been estimated at approximately 5-12 people per 100 square kilometers. These people made their living by hunting and possibly scavenging the carcasses of the megafauna. They also hunted smaller game such as rabbits and they may have fished on the coast. The populations in New England at this time may have numbered no more than a few hundred. These people lived in small groups and traveled seasonally. They probably were not nomadic, but were following seasonally migrating herds. Paleo sites are often located on hilltops overlooking plains or were high on the shores of glacial lakes.

By the end of the Paleo Period the environment in New England was stabilizing and life ways were becoming fairly distinct. The megafauna were extinct by 10,000 years ago, probably due to a combination of hunting by the first settlers and climactic change. the forests were beginning to change to more pine and nut bearing hardwoods which created new habitats for animals and new food sources for people. While the Paleo Period can be seen as a time of initial colonization, the next period, the Early Archaic, can be viewed as a time of settling in and accommodation to life in New England.

No identifiable Paleo-Indian artifacts were identified in the Kingston Public Library Local History Room collection.

2. Early Archaic 10,000-8,000 BP

The extinction of the megafauna and the changing climate led to a revamping of the Paleo-Indian way of life around 10,000 years ago. The environment in the Early Archaic had warmed slightly and as a result, trees such as oaks, pitch pines, beeches and hazel began to flourish. It was during this time that the major rivers that are around today began to form as well and into these rivers **anadromous** fish species like salmon and herring began to run. This would have provided another food source for the inhabitants of New England. As New England began to become more forested, new mammalian species also would have moved into the area. These species would have included black bear, deer and moose.

The Early Archaic is one of the little understood periods of New England prehistory. Early Archaic sites tend to occur on a wide range of settings including hills sides with slopes over 15 degrees and hill tops. Some sites are situated on the same locations as Paleo sites while others appear alone in the landscape. Homes at this time have been theorized as being either of a longhouse shaped, as have been identified in Taunton, Massachusetts at the Titicut site, or as small pits dug into the sides of hills as have been identified in Connecticut and northern Massachusetts. It is unknown if the two forms of houses occurred simultaneously, were seasonally determined or represent different building traditions by different populations.

Evidence of the Early Archaic peoples' process of "settling in" is evidenced in their use of local volcanic materials such as rhyolite and felsite for tools and projectile points and their possible use of quartz for quick, expendable tools. Hunting during this period may have taken the form of spear throwing with the use of the atl-atl, a weighted stick that was held in the hand onto which a long spears was placed and launched from. The atl-atl was basically an extension of the throwers arm and it effectively increased the distance, force and accuracy of the throw.

Evidence for the Early Archaic has been recovered from Marshfield, Taunton and Carver, Massachusetts with an especially large concentration of sites in Taunton on the Taunton River. No identifiable Early Archaic artifacts were identified in the Kingston Public Library Local History Room collection. One site with an Early Archaic component has been identified in Kingston.

3. Middle Archaic 8,000-6,000 BP

While the Early Archaic was a time of transition from the paleo-Indian nomadic way of life to a more sedentary and permanent situation, the Middle Archaic can be seen as a time of more normality and permanency. It still was a time of many changes though. Oceans remained approximately 29 feet lower than they are today but the rate of rise had slowed enough for estuaries to begin forming. the formation of estuaries led to the establishment and proliferation of shellfish beds. Shellfish first settled

in the warmer southern waters and eventually moved northward as the sea level rise slowed and waters warmed. By 7000 years ago, forests with the same basic composition as today began to be established. The use of heavy stone woodworking tools such as axes, adzes and gouges increased during this period, possibly indicating the construction of log canoes or at least an increase in woodworking. Evidence for hunting using atlatls first appears at this time as well. In fact, the oldest burial in New England, 7500 years ago, was located in Carver, Massachusetts and contained two atlatl weights of the whale-tail variety.

Sites from this period are fairly common, indicating that people had begun to spread out over larger areas. It also indicates that there may have been more people in Massachusetts than before.

The Middle Archaic was represented by 18 points from the Cram collection and one from the Allerton site collection. The Cram collection points consist of five Neville points, one Neville-variant and 12 Stark points. One Neville Variant is present in the Allerton Site assemblage. In the Town of Kingston, two Middle Archaic sites have been identified.

4. Late Archaic 6,000-3000 BP

The Late Archaic represents the period with the most identified and recorded archaeological sites in Massachusetts. This has been interpreted by many as indicating a very large number of people living in our area during this period, although archaeologists are not sure why this happened. The case may also be made that this proliferation of stone tools and sites may be more related to a wider variety of stone tools being manufactured for specific purposes and a wide variety of habitats being exploited as opposed to a population boom. The Late Archaic is also a time of greater diversification and specialization than was evident in the earlier periods. The tool kits of the people living on the south coast and its coastal forests differed from that of the people in Maine and further north. This in turn was similar but distinct from the inhabitants of the strictly boreal forests such as those in New York and inland Massachusetts.

Along coastal Massachusetts, the combination of stabilizing sea levels and estuary formation led to significant runs of anadromous fish by the Late Archaic. As a way of taking maximum advantage of these fish runs, Native people began using **weirs** in the rivers, streams and bays. In fact, one of the largest weirs found anywhere in the world was encountered in what was once Boston harbor. The Boylston Street fish weir was encountered when the foundation for an office building in Boston. It is believed that the weir was constructed approximately 5000 years ago and covered several acres. Weirs of a smaller scale were undoubtedly employed in most of the bays, rivers and larger streams in southeastern Massachusetts.

Another significant development in the Late Archaic was the use of bowls carved out of soapstone (steatite). The actual carving of the bowls was probably not a significant development in itself, but what these bowls represented is. The raw material for the bowls, soapstone, is found only in certain deposits Rhode Island and Massachusetts. As a result, the recovery of soapstone fragments on the east coast indicates either that these items were being traded for, or that people were traveling fairly significant distances to quarry this stone. From the east coast, the quarries could have been reached in approximately 2-3 days. The stone would then have to be quarried, worked into shape and carried back to the homesite. These bowls are not small affairs by any means, some weigh up to 60 pounds. It is believed that the effort expended to acquire these bowls as well as their weightiness must mean that they were fairly important to the people. Before these bowls were used, food was probably either

roasted or boiled in skin lined pits in the ground through the used of hot stones. The soapstone bowls allowed for cooking directly on the fire, an change in cooking technology which eventually led to the use of pottery in southern New England. These appear to have been used only in the Late Archaic and do not appear in more recent periods. These bowls were also special enough to have often been buried with people after being ceremonially killed with a hole in the base.

As the Late Archaic is the best represented period in the Mattapoisett Historical Society collections, a more in depth discussion of it is presented here. Beginning with the end of the Late Archaic and continuing through the Late Woodland period, sites tend to appear more frequently on the coast and the banks of rivers, and especially near river estuaries. The Woodland period is marked by basic technological and economic changes, notably the production and use of pottery and a gradual shift to food production (maize, beans, squash, sunflower and other vegetables). The Late Archaic to Early Woodland periods will be discussed in more detail under the section on research design.

Small Stemmed and Squibnocket Triangle points have often been considered to be temporally diagnostic of the Late Archaic period in New England prehistory. The earliest dates for the presence of Small Stemmed points have been pushed back into the second or third millennium before present by work in the 1980s (PAL 1982 a, 1982b, 1983). Small Stemmed points have been characterized by four varieties (Small Stemmed I-IV) which can be lumped together into two categories- squared to rectangular stems and rounded stems. The first category includes Small Stemmed I and II. These are characterized by narrow isosceles triangular blades, a steeply angled cross section with hard hammer percussion flaking, a short roughly rectangular to square stem that is wide in relation to the maximum blade width (1:1.5) and length to width ratios of 1.5:1 to 3:1 (MHC 1984: 86-91). These generally date from 6000-3000 B.P. The second category includes Small Stemmed III and IV. These are characterized by narrow isosceles triangular blades, a steeply angled cross section with hard hammer percussion flaking, a bluntly pointed to rounded base that may be thinned, ground or rubbed and length to width ratios of 2.5:1 to 4:1 (MHC 1984: 92-95). These have been roughly dated from 5000-3000 years B.P. The predominant raw material used to produce these points is locally available quartz gathered in cobble form from the coast, river edges and glacial drift. The second most common material is argillite either originating in the Taunton River drainage or from glacial drift cobbles. A wider variety of materials was utilized to the north and west of the Boston Basin where rhyolite and argillites were the predominate local materials.

Some researchers see Small Stemmed points as a backwards extension of the Orient and Susquehanna Broad spear traditions into early 5th millennium essentially making them an early intrusive element of this tradition (Hoffman 1985: 59; Ritchie 1969:214; Snow 1980:228). Ritchie sees this as "unquestionably happening" as he believed this quartz pebble-based technology move into New England from somewhere to the south, probably the Mid-Atlantic, along coastal plains and via large river valleys. Snow states that this tradition may have been intrusive from the lower Susquehanna into southern and eastern New York, New Jersey and New England. Dincauze feels that this may have happened but favors an indigenous development in southern New England that evolved out of the Neville/ Stark/ Merrimack sequence (Dincauze 1975, 1976). The later may be likely as the Small Stemmed of the points appear to generally resemble these antecedent forms.

The earliest dates for Small Stemmed Points are from the Bear Swamp 1 site (4600-4500 BP) located on the Taunton River estuary and the Kirby Brook site (4400-4000 BP) located in middle Shepaug (Hoffman 1985:59). Many sites in southeastern Massachusetts have a higher number of these points

and widespread in the Late Archaic, eventually declining in occurrence from 3800 BP forward. The than anywhere else in the state which has lead Dincauze to speculate that the Narragansett drainage basin was an important focus for this tradition (Dincauze 1975). These points remained very popular most recent most recent dates for them are 955 +/- 155 BP from the Black Bear site (PAL 1982b) and 850 +/-205 BP from the G. B. Crane site Taunton (PAL 1983). Current research indicates that these points continued in use after the Late Archaic and well into the Early Woodland and possibly Middle Woodland (Mahlstedt 1986:9; Moffet 1957; McBride 1983; PAL 1982a, 1982b, 1983 (American Antiquity Current Research 1981: 696).

Also occurring with Small Stemmed points are small cordiform triangular points generally called Small Triangles or more commonly Squibnocket Triangles. Squibnocket Triangles have bases that are usually concave but occasionally strait with and equilateral to isosceles triangle blade. Width ranges from 1.3-2.5 centimeters and length ranges from 2-4 centimeters with a length to width ration of 1:1 to 2.5:1 (MHC 1984: 98-99). The temporal range for these points is generally the same as the second category of Small Stemmed points, 5000-3000 years B.P. The most common materials for these points is the same as for Small Stemmed, quartz and argillite with some quartzite and volcanics being used.

Other tools utilized by this culture were rough and ground stone choppers, plummets, unpitted hammerstones, plano-convex adzes, shallow-groove adzes, polished splinter awls, barbed antler harpoon heads and graphite and hematite paint stones but apparently not many scrapers, drills or knives (Ritchie 1969:215). Pestles and weirs also appear in the tool kits for the first time. These tools indicate that the Small Stemmed (or Mast Forest tradition as Snow (1980) identified them) utilized a wide variety of resources. In fact, sites associated with the Small Stemmed Tradition occur in micro-environments that show great diversity in their hunting and gathering strategies. Coastal shell middens, estuarine fish weirs, estuarine shore sites, and sites on lakes, ponds, springs, streams, brooks, river shores and quarries all show how wide their procurement strategies reached. Fishing was accomplished by hand with hooks, lines and stone plummets as well as weirs such as the Boylston Street Fish weir(s) which has been directly associated with the Small Stemmed Tradition (Dincauze 1974: 48). It has been found that the inhabitants of southern New England at this time utilized more of the lower links on the food chain at this time as well such as shellfish, seeds, nuts, and small game, all resources that were not used to the same extent by their predecessors (Dincauze 1974: 48). This may have been a response to an increased population in the area at this time. As a way of coping with a higher population, a wider variety of more marginal resources had to be exploited to feed the greater number of people. This led to a well-balanced adaptation by a people who were very familiar with their surroundings.

Possibly, at this time, people were living in small open communities of only a few families on or near the sea coast in the spring to fall, moving to more permanent lakeside communities which formed the core of their territorial identity in the fall and winter (Ritchie 1969:219; Dincauze 1974: 48.) They may have had a river basin territoriality with a focus that thus would have constrained their communication and trade networks by being so watershed focused. This interpretation is similar to Snow's and Pagoulatos' who see the Small Stemmed traditions resource utilization system as a central based wandering one with winter camps in the back country or uplands and summer camps on the coast. Sites in this sort of system would not be large but they would be numerous and occurring in a wide variety of settings with a broad range of fish, mammals, birds, plants and mast producing trees being exploited (Snow 1980:230; Pagoulatos 1988). Pagoulatos sees the Small Stemmed Tradition, called the Tinkam Phase in Connecticut, as having a resource systems like the Micmac that was essentially mobile. He sees them as always moving to specific resource zones at specific times of year. This

results in a high number of residential camps and locations and few task camps. Residential camps are found away from the Connecticut River in areas of high wetland potential such as the interior swamps, marshes and lakes (Pagoulatos 1988: 85). This interpretation appears somewhat different than that for southeastern Massachusetts where Small Stemmed populations appear to have exploited the coast and inlands. It is also interesting to note that it was at this time that shellfish were first exploited in much of the northeast. Ritchie viewed the initial exploitation of quahog and oysters over soft shell clams in the Late Archaic as evidence of immigrants moving into an area, being unfamiliar with shellfishing and basically collecting what they could see, the oysters and quahogs, and not what lay below the mud, the clams (Snow 1980:229).

It appears that by 3700 B.P. the cultural system of the people who were using Small Stemmed points in southern New England had begun to change. This period, from 3700-2700 B.P, has variously been called the Terminal or Transitional Archaic. During this time there appears to have been an immigration into southern New England of people using tools of the Broad spear or Susquehanna tradition. Projectile points of the Susquehanna style characterize the early part of this period while those of the Orient Fishtail style, a possible merging of indigenous Small Stemmed and Susquehanna styles, dominate the latter half (Snow 1980:237; Dincauze 1975: 27). The Orient point tradition appears to have remained in New England and eventually evolved into the Rossville and Lagoon points of the Early Woodland Period.

Points of the Susquehanna/ Broad spear style include the Susquehanna Broad, Wayland Notched and Atlantic points. Susquehanna Broad points are a corner notched point what has diamond-shaped blade and shoulders with obtuse shoulder angles and generally strait or concave bases with a basal width less than the maximum blade width. The bases often show basal grinding or rubbing and the cross section is flat with soft hammer percussion flaking evident. These points can range from 2.5 to 20 centimeters long, making them a generally large point with a length to width ration of 2:1 to 3:1 (MHC 1984:108-109). These points were produced from 4000-3500 years B.P. Unlike the Small Stemmed points, these are often made of exotic cherts and local volcanics with quartz, quartzite and argillite rarely used.

Atlantic points are triangular bladed stemmed points with strait-bottomed parallel-sided squared bases whose basal width is greater than or equal to 1.5 cm. The shoulders are well defined and approach a 90-degree angle with the stem the junction of which is formed by indirect percussion with a punch. These points can range from 5 to 15 centimeters long, making them another large point with a length to width ration of 1.5:1 to 2:1 (MHC 1984:106-107). These points were produced from 4100-3600 years B.P. Local volcanics are common as raw materials with quartzites, argillites and cherts also used. Quartz is a raw material for Atlantic points, again, like the Susquehanna Broad, showing a sharp break in technology from the Small Stemmed Tradition.

Wayland Notched points are a side-notched point that has a triangular shaped blade with a strait to slightly concave base that is often less than the maximum blade width. The bases often show basal grinding or rubbing and the cross section is flat with soft hammer percussion flaking evident. These points can range from 3.5 to 11 centimeters long, making them a medium-sized point with a length to width ration of 2:1 to 3:1 (MHC 1984:110-111). These points were produced from 3600-3000 years B.P. Local volcanics are common with chert and argillite also used.

Orient Fishtail points are a side-notched point with a narrow lanceolate blade shape reminiscent of Small Stemmed points (Figure 10). The stem is expanding and the base is usually strait to concave and

occasionally angled with a basal width less than or equal to the maximum blade width. The shoulders are rounded and often poorly defined with an obtuse shoulder angle. In cross-section these points range from flat to steeply angled and evidence of soft to hard hammer percussion is present. These points range from 2.5 to 10 centimeters long with a length to width ratio of 2.5:1 to 4:1 (MHC 1984: 112-113). These points were produced from 3000-2000 years B.P. Common raw materials include local volcanics quartz and quartzite. The blade shape, poorly defined shoulders and raw material choice hints that these points are a blending of Susquehanna and Small Stemmed traditions.

The Susquehanna Tradition created a sharp change in the archaeological continuity of the Small Stemmed Tradition as far north as Maine (Dincauze 1975:27). This is probably the result of an infiltration or migration of peoples from the southwest. There appears to be a distinct difference in cultural and industrial traditions from the indigenous populations but no evidence of assimilation of populations. Various researchers have attempted to determine if there was a large migration of people associated with the Susquehanna Tradition or if it was merely a small influx with a new specialized tool, the Broad spear, that was adapted as an adaptation by local populations to exploit marine fish resources (Turnbaugh 1975: 57).

David Sanger used six criteria to examine the Susquehanna Tradition and determine if it met these criteria for migration. The criteria were 1) identify the migrating people as an intrusive unit in the region it has penetrated, 2) trace this unit back to a homeland, 3) determine that all occurrences of this unit are contemporaneous, 4) establish the existence of favorable conditions for migration, 5) demonstrate that some other hypothesis, such as independent invention or diffusion of traits, does not better fit the facts of the situation, 6) establish the presence of all cultural subsystems and not an isolated one such as the mortuary subsystem (Snow 1980:245). Sanger concluded that all of these criteria were met in Northern New England, thus lending support to an immigration hypothesis. Work by Pagoulatos (1988) reached much the same conclusion about the Susquehanna in the Connecticut River Valley. He looked at the chronological setting, site types and settlement patterns and determined that the users of the Susquehanna tools represented a complete cultural system focused on the riverine areas that displaced the local Small Stemmed populations (Pagoulatos 1988: 85). Small Stemmed populations practiced different subsistence and procurement strategies than the Susquehanna users and thus allowed two different cultural systems to coexist.

Susquehanna populations in the Connecticut River Valley had relatively stable residences that allowed the exploitation of specific resource zones throughout much of the year. Organized task groups left a central base camp to establish temporary fishing and hunting camps, thus they moved less frequently, had a lower number of large residential camps and a high number of field camps (Pagoulatos 1988:86-89). Susquehanna populations appear to have practiced a resource procurement strategy similar to what Binford found for stable hunter-gatherer groups. In Binford's work he found that communities were situated along the river courses for much of the year with the organized task groups leaving the camp to procure and process mammal resources by setting up temporary field camps. In this case aggregation would be expected on the riverine and terrace locations with smaller field camps in the uplands. The few larger residential camps found within a territory would show high intra-site and low inter-site variability (Binford 1980:18) Basically many of the tasks, stone knapping, skin processing, cooking, plant processing, etc., would be done at this central residential base camp and the structure and evidence of activities would not vary much between different residential camps.

The later half of the Terminal Archaic was dominated by people who used the Orient Fishtail Point Tradition. This appears to have been a time of great change in New England with new technologies appearing and by 3000 years B.P. an interrelated series of climatic, environmental, cultural and social changes that is seen as dismantling the "finely balanced Archaic adaptive systems" (Dincauze 1974). Environmental changes included climate cooling with a possible regression of marine shorelines, a cessation of marine transgression, a change in the forest composition from oak and hickory to chestnut and by 2000 years B.P. a breakdown of reliable trade networks (Ritchie 1969:164; Dincauze 1974: 49). Work on the I-495 corridor in the by the Public Archaeology Laboratory, Inc. in the 1980s suggests that favorable habitats were reduced at this time due to a lower availability of open water. As a result, the margins of the largest and deepest wetlands were extensively used as well as an intensification of the use of riparian locations (PAL 1982, 1982a). Orient Tradition sites are thus often found near the seashore or on major rivers, an occurrence that Dincauze attributes partially at least to the dissolution of trade networks, usually in locations that are protected from the prevailing winds possibly with a move to interior camps in the winter, although again, Dincauze sees year round coastal settlement by Orient Tradition peoples (Dincauze 1974:49). Interior sites along major wetland margins, such as those identified by the I-495 work may represent these winter quarters or were the locations of special purpose resource procurement locations. Funk (1976) proposed that camps located on bluffs were occupied in the winter while riverside sites probably represent spring to fall fishing sites where anadromous species such as alewife, herring and shad were collected through the use of weirs. There appears to be a clear separation of activities by season and site location, possibly a result of a change in settlement and procurement strategies similar to what Pagoulatos (1988) found in the Connecticut River Valley. By the end of the Orient phase, the elaborate burial ceremonialism that characterized the Susquehanna phase also appears to have come to an end (Dincauze 1974:49). The ultimate cause of all these changes and the general terminal Archaic cultural re-adaptation are unknown or unrecognized but it may be related to the climatic deterioration and the changing forest composition that could have led to a lessening of the reliance on inland sites (Dincauze 1974: 49).

The Orient Tradition is characterized by resurgence in the acquisition and use of non-local cherts and jaspers from New York and Pennsylvania (Ritchie and Leveilee 1982) as well as the use of steatite for bowls. The pattern of long-distance exchange suggests a reestablishment of expanded exchange system that contrasts with the earlier Late Archaic system (MHC 1982: 25). The Orient Tradition was first identified by Ritchie on Long Island close to Orient New York and was initially characterized by the burial of dead upon high knolls. This led some to speculate that the Orient Tradition was nothing but a mortuary cult for from New England (Ritchie 1963: 196). This was later proved not be the case as habitation sites were identified.

Foods used by Orient Tradition users appear to possibly include an appreciable amount of shellfish and fish as well as deer, turtle, turkey and duck species, and small mammals such as woodchuck, gray fox, and mink. Features associated with the processing of these resources include earth ovens where foods were baked, stone platforms for roasting and the use of boiling stones. The tool kit of the Orient Tradition is characterized by the Orient Fishtail point, which make up about 88% of the point type used, and many of the same tools used earlier in the period such as atl-atl weights, full-grooved axes, rectangular celts, plano-convex and grooved back adzes, small gouges, ovate and triangular knives, straight, stemmed and fishtail point drills of quartz and chert with few scrapers and anvil stones (Ritchie 1969:170). Also included in this inventory are ellipsoidal and rectangular stone gorgets, lots of graphite and hematite paint stones and steatite bowls and some of the earliest occurrences of locally made pottery.

Steatite (a.k.a. soapstone) vessels have come to be one of the hallmarks of the later half of the Terminal Archaic in New England. These vessels are oval, rectangular or nearly circular or trough-like, generally with rounded corners, rims and bases with slightly out sloping to vertical walls and squarish lobate lugs on the exterior. The range in size from 14 to 46 centimeters long and 5 to 8 centimeters high and are sometimes found smoke stained and soot encrusted, possibly indicating direct use on fires for cooking. Their general shape suggests that they were originally modeled on wooden bowl prototypes. This technology does not seem to represent an independent invention in New England, but appears to have spread north from the as far south as the Virginia to North Carolina Piedmont area, eventually splitting with one northern production center being in Pennsylvania (possibly associated with the Broadpoint/Susquehanna Tradition) and another in New England (possibly associated with the Small Stemmed Tradition)(Ritchie 1963: 170). Few sources appear to have been exploited for soapstone bowls in New England with the known ones being in Rhode Island, Connecticut and central Massachusetts. Soapstone bowls are generally found at camp sites along major streams and not in remote inland sites where the lack of canoe transport made moving the heavy objects more difficult (Snow 1980:240). Alternately, Funk (1976) sees the presence of steatite more often on the coast as a result of seasonality.

Steatite vessels represent the first imperishable vessel form in the northeast. It does not appear in New England before 4000 years B.P. with earliest date reported by Hoffman being 3655 +/- 85 years B.P. (Hoffman 1998:48). Steatite may have been found at the Wapanucket 6 site in association with Squibnocket Triangles and radiocarbon dated at 4355 +/- 185 years B.P. possibly making this the earliest occurrence in Be England (Fiedel 2001:104). Steatite achieved its chief popularity between 3000-2500 years B.P. and disappeared after 2500 years B.P. There does not seem to have been a clear transgression from steatite to clay pottery and their occurrences appear to overlap at some sites. This may indicate separate but complimentary uses for these vessels.

The original reason why any sort of imperishable vessel was made or used in New England may lay in the social changes occurring in the Terminal Archaic. These reasons include an indigenous response to the increasing population densities in floodplain environs with durable vessels being a way to process resources more efficiently (Pagoulatos 1988: 85-91). These resources may have included chenopodium and wetland grass seeds. The environmental changes that were occurring at the time that may have changed the available resources and led to an increase in reliance on anadromous fish (Turnbaugh 1975). Finally a diffusion or migration of peoples or ideas from the southeast (Snow 1980: 242; Tuck 1978).

Steatite may have had a more ceremonial place in Terminal Archaic culture as well. The makers of the steatite vessels are assumed to have been men, possibly ones who were engaged in ceremonial exchange with the steatite being the exchanged item (Snow 1980: 250). This may account for more centralized distribution of steatite and the mortuary associations of it. Sites where steatite occur may be central ceremonial sites where males gathered for inter and intra regional trade or to participate in mortuary ceremonies (Hoffman 1998: 52). This may be related to the use recorded ethnographically from the southeast of large vessels by males for the consumption of ritual "black drink" (Sassaman 1993:170, Stewart 1997; Klein 1997: 146). This ceremony may have been similar to that recorded in southeastern Massachusetts where young men undergoing ritual purification in preparation to become pnieuseuk consumed a drink of white hellabore. Edward Winslow, prominent Plymouth Colony settler, described the pnieuseuk as

"men of great courage and wisdom, and to these also the Devil appeareth more familiarly then to others, and as we conceive maketh covenant with them to preserve them from death, by wounds,

with arrows, knives, hatchets, etc. or at least both themselves and especially the people think themselves to be freed from the same. And though against their batters all of them by painting disfigure themselves, yet they are known by their cottage and boldness, by reason whereof one of them will chase almost an hundred men, for they account it death for whomsoever stand in their way. These are highly esteemed of all sorts of people, and are of the Sachems Council, without whom they will not war or undertake any weighty business. In war their Sachems for their more safety go in the midst of them. They are commonly men of the greatest stature and strength, and such as will endure most hardness, and yet are more discreet, courteous, and humane in their carriages then any amongst them scorning theft, lying, and the like base dealings, and stand as much upon their reputation as any men.

And to the end they may have store of these, they train up the most forward and likeliest boys from their childhood in great hardness, and make them abstain from dainty meat, observing divers orders prescribed, *to the end that when they are of age the Devil may appear to them, causing to drink the juice of Sentry and other bitter herbs till they cast, which they must disgorge into the platter, and drink again, and again,* till at length through extraordinary oppressing of nature it will seem to be all blood, and this the boys will do with eagerness at the first, and so continue till by reason of faintness they can scarce stand on their legs, and then must go forth into the cold: also they beat their shins with sticks, and cause them to run through bushes, stumps, and brambles, to make them hardy and acceptable to the Devil, that in time he may appear unto them. " (Italics mine) (Young 1974: 340)

This ceremony that helped to create the pniese may be a descended from an earlier one in the Terminal Archaic that utilized the steatite vessels. The rise of the elite fighting class of the pniese may have been a response to increased population pressure in the area and a need to defend resources. If steatite bowls were associated with males and male ceremonies, one would expect to find them in male graves as opposed to female ones. Unfortunately, the majority of the graves of the Terminal Archaic consist of cremation burials that have produced bone that was in such a fragmented and calcined state that assignment of sex was impossible. One Terminal Archaic burial and two possible burial caches from Jamestown, Rhode Island again could not be assigned to sex, but the items included may point towards male having been interred in the grave that contained steatite bowls and the other internments being assignable to male tool kits. In the single grave that contained calcined bone as well as steatite, other objects interred with the individual included a small grooved axe blade, a perforated black pebble, a clutch of graphite pebbles, a slate drill blade, a chert flake, six projectile points including one of Pennsylvania Jasper, lumps of red ocher a red pigment stone and a 35.5 cm long pestle, a perforated and incised steatite pendant, a flat incised stone "tablet" and an incised quahog shell fragment (Simmons 1970: 17-27). The caches containing steatite also had graphite pebbles, a rhyolite drill, two side-notched points of slate, a chert Orient Fishtail point, two "crude" pebble choppers a side-notched rhyolite point and two small quartz pebbles (Simmons 1970:27-32). Unfortunately it is difficult to assign sex of a burial based on grave goods alone due to the fact that grave contents may not reflect items actually used by the person interred there. They may be items placed in the grave by friends and relatives of either sex as gifts to them and thus a mixture of male items may be in a female grave or female items in a male grave. This could be a topic that needs to be researched more in the future.

After steatite bowls ceased to be present in the archaeological record, other vessels such as wood may have taken the place of the stone vessels. The use of a wooden vessel as opposed to a pottery one may have continued the association of a male created vessel used for a strictly male ceremony. Steatite bowls exclusively used by males may also have been replaced by chlorite and later steatite and pottery smoking pipes and pipe ceremony that went along with them. This too seemed to have been an almost

exclusively male pursuit with some ritual significance. Pipes first make their appearance after steatite bowls ceased to be found archaeologically in New England. Like the association of steatite with male graves, the decline of the steatite bowl industry and rise of the smoking pipe and smoking ceremony is another avenue of future research.

Other research questions related to steatite were proposed by Sassaman (1999). These include the following: Did soapstone vessel production and exchange in southern New England emerge in the context of the expanding broadpoint cultural front as one of several means of alliance building with central New York groups? Did successful ties with such groups efficiently preclude or thwart assimilation between indigenous and immigrant populations in southern New England? Was the burial ceremonialism of southern New England a context of mediating ethnic distinctions between indigenous and immigrant populations as suggested by Dincauze (1975b:31)? Did the growing technological contrasts in the third millennium B.P.-notably the exclusive use of Vinette I by Meadowood groups of New York and the coexistence of both soapstone and pottery in Orient contexts of southern New England and Long Island-signify an end to traditional alliances?

Most researchers see the use of steatite as being antecedent to the use of clay pottery, although Hoffman has attempted to make the case for pottery having been used prior to the introduction of steatite (Hoffman 1998). The shift from steatite to pottery probably occurred gradually over time with both technologies being in use for at the same time. Funk (1976) sees the coeval existence of pottery and steatite and their relative occurrence in inland and coastal sites as being a result of seasonality. In this situation, steatite was used on the coast in the spring to early fall and pottery was used at inland winter sites. Pottery dates as far back as 3600 years B.P. in southeastern New England and 3300 to 3100 years B.P. in southern New Hampshire (Sassaman 1999: 75). The eventual usurping of pottery over steatite may be related to a decreasing need in the Terminal Archaic for far-flung alliances (Fiedel 2001:106). Early pottery has been termed Vinette I and it is generally believed that at least the gross technological ideas of pottery production spread to the north from the south, possibly from the same general areas as steatite bowl production. This pottery type has been recovered in Connecticut in association with Susquehanna points (Levin 1984:15; McBride 1984:123; Pfeiffer 1984:79). The earliest pots were straight sided with pointed, concoidal bases and some archaeologists believe that these resemble basket styles common in these earlier periods (Braun 1994:63). This type was first identified in New York State but it is not confined to there. Vinette I pottery has been recovered from all of New England, New York and New Jersey. This type of pottery can be identified by its thick, straight wall and the use of abundant grit and grit as a tempering medium. Walls of Vinette I pottery range from .6-1.1 cm (Luedtke 240). The exterior and interior of Transitional Archaic to Early Woodland ceramics were commonly cord marked, a possible decorative technique resulting from the patting of the vessel with a cord wrapped paddle to help bond the coils together. Some smooth surfaces may also occur in some vessels either intentionally or accidentally.

Vinette I pottery has been found to be heavily tempered with grit composed of coarse, poorly-sorted crushed-rock and sands with a general decrease in the size of the grit over time (Bunker 208; Luedtke 229). Native pottery may also be shell tempered and although this is generally believed to be a temper used in the Middle Woodland to Contact periods, Lavin, in her work on Cape Cod ceramics postulates that the type of temper may not be temporally related but may be more closely linked to where the vessel was made. Temper type on coastal sites may more often be shell tempered while those on inland sites may be more often grit tempered. This has to do with the temper resources available to Native potters. Rim shapes for Vinette I ceramics are round, with some decoration consisting of incised lines

possibly being present (Luedtke 244). Decoration of the vessel it self takes the form of the cord marking, which was applied in a horizontal direction on interior and multiple directions on exterior and some incised lines (Bunker 208). The similarity of Vinette I pottery throughout the Northeast suggests a local center of invention or adoption from which the technology spread out. Ozker sees this similarity in form and structure as reflecting a similarity in function. He sees these vessels as only being used in a fall context and were not in daily use (Ozker 1982: 210).

The Late and Transitional Archaic were the most common periods represented in the Cram Collection. A total of 79 points are present in the collection, 59 Late Archaic and 20 Transitional Archaic. Late Archaic points are best represented by Brewerton Corner Notched (n=12), Small Stemmed (n=17), Squibnocket Triangle (n=19) and Orient Fishtail (n=points. Other Late and Transitional Archaic points in the Cram collection are Otter Creek (n=1), Genessee (n=2), Atlantic (n=8), Susquahannah Broad (n=6), and Meadowood (n=1). Also present in the collection are 41 fragments from several steatite bowls. One steatite gorget was recovered from the Allerton site.

Late and Transitional Archaic sites represent the most common types of sites that have been identified in Kingston with 17 sites having been identified to date.

5. Early Woodland 3000-2000 BP

Following the Terminal Archaic is an ill-defined time labeled the Early Woodland by New England archaeologists. In the face of the date for the start of pottery production being back into the Late to Terminal Archaic and the absence of horticulture possibly until after 1000 A.D, some archaeologists, like Snow, do not view the designation of Early Woodland as a valid one (1980). They see no real change occurring that could be used to differentiate the Terminal Archaic and the next 1000 years. They merely see a continuation of tumultuous times that began after 3000 to 4000 years ago. In the words of Filios "... the chronological picture (for the Early Woodland) is more murky than previously suspected. ...the horizon markers (of this period) need to be reevaluated." (Filios 1989:87). Traditional horizon markers for the Early Woodland have included Vinette I pottery, which has been shown to have been produced before the Early Woodland, an absence of Small Stemmed points, which have been shown to have continued in use into the Early Woodland, and increased sedentism, which appears to have begun before the Early Woodland, and horticulture, which in New England was not intensively practiced until after 1000 A.D.

Some of the trends identified above, the decreased population and fragmentation, are based on the small number of Early Woodland sites that have been identified. This may be more a product of the criteria used to identify the sites, such as the presence of pottery and absence of Small Stemmed points, and number of Early Woodland sites may not be as small as thought. If one includes sites yielding Small Stemmed points but no pottery, as these may represent special purpose floral or faunal resource procurement task camps and not residential locations, the number of sites *possibly* attributable to the Early Woodland increases. Due to the increasingly long temporal use range for Small Stemmed points, their presence or absence can no longer be used as valid "datable" criteria to assign the site to one period or another. What is needed is more radiocarbon dates associated with specific materials. Until this occurs the Early Woodland will remain obscure and ill defined.

A dramatic population collapse has traditionally been one of the defining characteristics of the Early Woodland and while Hoffman (1985) does not see evidence of any break. Filios (1989) came to a similar conclusion although her data shows a break in radiocarbon dates from 2700-2400 years B.P.

possibly showing a population decline after 3800 years B.P. and a greater decline after 2800 years B.P. (Fiedel 2001: 117). If there was in fact a population collapse, reasons for it have included climatic and environmental change, epidemics, the effects of plant and animal die-offs and socio-cultural factors (Fiedel 2001: 118). One of the main causes may have been if nut bearing trees, already in decline in the Terminal Archaic, were hit hard by plant disease or environmental change, then this may have caused a population reliant on this resource to die off. This would account for the drop in inland sites in the period. Alternately the populations living on the coast that focused their procurement strategies on river valley, estuarine and inshore resources may have remained relatively unscathed. These would be the Rossville and Lagoon point users, point styles that show a high concentration in coastal areas especially Cape Cod.

Eight Early Woodland points are present in the Cram Collection, six Rossvilles and two Adena-like points. The production of Small Stemmed and Squibnocket Triangles also continued into the Early Woodland, but have been included in the Late and Transitional Archaic section of this report. Five sites with Early Woodland components have been identified in Kingston.

6. Middle Woodland 1700-1200 BP

This period is marked by a decrease in the number of exotic finished goods indicative of long-distance trade, and by changes in mortuary practice (increase in secondary interments, less use of ocher, fewer grave goods, more variation in preparation of the dead). While the roots of ceramic and lithic variability are found in the preceding periods, more rapid variation in sequence through time and more regional variation characterize this period. Ceramics vary more in decoration and form. Lithic projectile points are less important in the tool kit, and bone and antler tools are preserved at some sites where matrix conditions are appropriate (Shaw 1996b:84-87). By the end of the period there is evidence of maize horticulture (Thorbahn 1982).

Fox Creek and Steubenville bifaces characterize this part of the period (Moore 1997). There is some overlap in time between the Fox Creek and Jack's Reef points during this part of the Middle Woodland. Jack's Reef points continue to be used into the Late Woodland. Exotic lithic materials increase in the Middle Woodland, except in the Champlain drainage. Jack's Reef points are often made of non-local chert (Shaw 1996b:92-93). Some lithic tool types, such as Rossville (Shaw 1996b:90) and Small Stemmed (Hasenstab et al. 1990) continue into the Middle Woodland.

The Middle Woodland is well represented in the Cram Collection with a total of 26 points being present in the Cram Collection. The majority of these points appear to be Greenes (n=14), with Fox Creek Stemmed (n=6) and Jack's Reef Pentagonal (n=6) also being present. Several pieces of pottery with dentate stamping were also present in the Cram Collection. Many of these fragments came from one vessel, possibly the complete pot that was recovered from the child's grave by Cram. Three sites with Middle Woodland components have been identified in Kingston.

7. The Late Woodland Period 1000-500 BP

This is the period just prior to European contact and as a result, many of the historical reports written by the early explorers to New England (Verrazanno, Gosnold, Pring, Smith) present one way of understanding the late Late Woodland period. Some of their observations may be able to be extrapolated back into the Pre-Contact past through the use of ethnographic analogy. These analogies can be created with more confidence as pertaining to the culture of the Late Woodland period than any earlier one.

The ceramics of the Late Woodland period are often shell-tempered or made with fine grit temper and have thinner bodies and a more globular form than the earlier ceramics. The diagnostic projectile point of the Late woodland period is the triangular Levanna points and occasionally the Madison. This period is marked by an increasing importance in food production (maize, beans, squash, sunflower and other vegetables) in coastal or riverine zones, which begins by ca. 1100 BP on Martha's Vineyard (Ritchie 1969).

These decrease in projectile point styles and the increase in the reliance on horticultural crops, may be attributed to increasing numbers and densities of population at larger sites. While the occurrence of the "village" in southeastern Massachusetts continues to be debated, the affect of an increased reliance on corn, beans, squash and to a lesser degree gourds, sunflowers and tobacco, definitely led to a degree of sedentism not seen prior to this time (Hasenstab 1999; Kerber 1988).

Ceramics are often shell-tempered or made with fine grit temper and thinner bodied; there is a shift to globular forms, and the addition of collars, sometimes decorated with human faces. Elaborate collars similar to those of Iroquois ceramics are found in the Merrimack and Champlain drainages. Triangular projectile points (smaller Madison points or larger Levanna points) are diagnostic for this period. This period is marked by an increasing importance in food production (maize, beans, squash, sunflower and other vegetables) in coastal or riverine zones, which begins by ca. 1100 BP on Martha's Vineyard (Ritchie 1969).

These changes in assemblage, and by implication, adaptation, are attributed to increasing numbers and densities of population at larger sites. Research issues include the extent of permanency in Late Woodland settlements, the nature of such settlements (i.e., whether such settlements were villages; see Hasenstab 1999; Kerber 1988), the identification of horticulture with non-native plants and definition of the effects on humans. In addition, researchers might ask about the use of different ecozones, the reality of population growth, and whether or not climate change (e.g., the Little Ice Age), affected settlement and subsistence. There is some evidence of the development of long-distance exchange again, and some workers have suggested that a native beaver trade was developed before Contact. Regional differences are visible. In Vermont, there are fewer late Late Woodland sites than early Late Woodland. This may be a response to Iroquois settlement changes. In southern New England, horticulture did not replace existing gathering and hunting strategies, and large settlements did not replace small seasonal sites. Differential dependence on horticulture is likely to have affected society and politics. Cultural differentiation of the Iroquois from the Algonquin also presents research opportunities (Shaw 1996c).

Fifty-seven Late Woodland Levanna points were present in the Cram Collection and three were present in the Allerton collection. Five Late Woodland sites have been identified in Kingston.

8. Contact Period

The Contact period was a time a dramatic social, political and personal upheaval for southeastern Massachusetts Native populations. This period began with amiable trade relations with European explorers such as Verrazanno (1524) and Gosnold (1602), followed by a growing distrust of Europeans and an increase in hostility between the two, especially on Cape Cod (Pring 1603, Champlain 1605). This hostility was due primarily to the kidnaping of Native men by Europeans desirous of returning home with informants or curiosities from the New World (Weymouth 1607, Hunt under Smith 1614). By the time of the settling of the English at Plymouth, 1620, Natives in southeastern Massachusetts

had been decimated by a European epidemic, 1616-1619, with mortality rates possibly reaching 100% in some communities.

The first recorded trading encounter in New England occurred in 1524 and involved the Florentine sailor Giovanni da Verrazano who was sailing for France. Verrazano arrived in Narragansett Bay in April of 1524 and traded with the natives (Parker1968f:14). He stated that the people were apparently unfamiliar with Europeans and were very willing to trade and host the visitors. The natives were first enticed to trade by tossing "some little bells, and glasses and many toys" (Parker1968f:14) to them as they came to Verrazano's ship in their own boats. The Europeans remained in the harbor until early May and Verrazano stated that of all of the goods they traded to the natives "...they prized most highly the bells, azure (blue) crystals, and other toys to hang in their ears and about their necks; they do not value or care to have silk or gold stuffs, or other kinds of cloth, nor implements of steel or iron." (Parker 1968f: 16). It was also noted that the natives here possessed ornaments of wrought copper which they prized greater than gold. The copper may have come indirectly through trade with natives to the north who traded them from European fishermen or it may have been native copper from the Great Lakes or Bay of Fundy regions.

The next explorer known to have visited southeastern Massachusetts was Bartholomew Gosnold who arrived at the Elizabeth Islands off Martha's Vineyard in May of 1602. There he traded with the first natives he encountered, giving them "certain trifles, as knives, points, and such like, which they much esteemed." (Parker1968b:38). Gosnold's crew, in return for the "trifles" received many different types of fur from animals such as beavers, luzernes, martens, otters, wild-cats, black foxes, conie (rabbit) skins, deer and seals as well as cedar and sassafras, the later which was prized as a cure-all in Europe. Of particular note is his description of the great store of copper artifacts which he saw people wearing and using. He said that all of them had

" chaines, earrings or collars of this metall; they head some of their arrows here with (it), much like our broad arrowheads, very workmanly made. Their chaines are many hollow pieces semented together, ech piece of the bignesse of one of our reeds, a finger in length, ten or twelve of them together on a string, which they wear about their necks; their collars they weare about their bodies like bandoliers a handful broad, all hollow pieces, like the other but shorter, foure hundred pieces in a collar, very fine and evenly set together. Besides these they have large drinking cups, made like sculles, and other thinne plates of copper, made much like our boar head speares, all of which they little esteem, as they offered their fairest collars or chjaines for a knife or trifle....I was desirous to understand where they had such store of this metall, and made signes to one of them....who taking a piece of copper in his hand, made a hole with his finger in the ground, and withall, pointed to the maine from whence they came." (Parker1968b:44).

The native informant asked by Gosnold as to where they received the copper from was probably either signing that it came from the mainland, possibly he meant through trade with natives or Europeans or he may have been referring to a native historical tale as to the origin of the copper. What is interesting is the great store of copper possessed by the natives and the desire that was present to trade for metal knives. It would appear that between 1524 and 1602 they had begun to see a value in steel knives and

they had expanded their use of copper to create beads and arrowheads, whereas in 1524 they were noted as having only breastplates of copper.

The presence of so much copper and the desire by the Natives to trade with the Europeans highlights the early relations. Natives saw European goods as being different, special, in some ways technologically superior and spiritually empowering. Unfortunately, the power that the Natives felt could help them cope with the sometimes disturbing new relationship with these strangers could not preserve them from their diseases. Sometime around 1616, an epidemic swept south from Maine among the Native people. Various authors since the seventeenth century have sought to identify what this disease was with the most likely candidate being infectious hepatitis.

Contact Period settlement is believed to have been potentially substantial, with Native settlements and farms located along the Jones River and its tributaries. The principle Native trails became the Plantation and Colonial period roads throughout the town. These routes included the main coastal pathway from Plymouth to the Pembroke Ponds, present day Route 3A, Crescent Street, Landing Road, Howland Lane, Route 27, School, Brookdale and Evergreen streets, Route 106 and Route 80 (MHC 1984: 1). Two Contact Period sites have been identified in Kingston.

Seventeenth century artifacts were present in both the Cram and Allerton collections. The Cram Collection contained one artifact clearly identifiable to the seventeenth century, a fragment of a Border ware pipkin.

B. History of Kingston 1620-1900

Kingston began as the North Precinct of Plymouth. Settlement occurred here at least by the early 1630s when it is known that several of the original Old Comers amongst the settlers at Plymouth spent at least the summers here. The Town of Kingston was incorporated in 1726 and the nook, a.k.a. Adeneh, was annexed from Duxbury in 1857.

The Plantation Period (1620-1675) saw expansion from Plymouth Plantation into the North Precinct/ Jones River area by the late 1620s and definitely by the early 1630s. Families that had at least summer residences near their planting grounds included Jenny and later Howland at Rocky Nook, Cook, Fuller along Smelt Brook, Allerton at the end of today's Elder Spring Street, Pratt, Bradford and Abraham Pierce. A ferry operated by Joseph Rogers may have briefly operated across the Jones River to Duxbury in 1636. Settlement concentrated along the Jones River from Rocky Nook to the west. The Jones River also was the early center of mill activities with a saw mill being located at the junction of the Jones River and Elm Street and a fulling mill at the junction of the Jones River and Wapping Road (MHC 1984:2).

The Colonial Period (1675-1775) saw the establishment of a formal town center with the construction of a meeting house in 1720 on the corner of Main and Green streets. Ferry service across the Jones River was discontinued at some point during the eighteenth century (MHC 1984: 3). Native and African American populations remained an important element of the population in Kingston throughout this period, numbering enough to have galleries built in the meetinghouse in 1752 for the Christian Natives (MHC 1984:3). Native populations were likely pushed further to the west of the main settlements to inland, less desirable areas such as the southern uplands and the area around Piegan Hill, where a documented site exists (MHC 1984: 4). Natives and Africans were likely involved in the sea trades as well as possibly being hired as laborers and servants. The European element of the population

remained dominant, numbering 48 families by 1717, 550 persons by 1726 and 759 persons by 1765 (MHC 1984: 3). The economic base of Kingston during the Colonial Period included mills, sawmills, forges, gristmills, shovel works and dyewood manufactory, on very major stream and a growing shipbuilding industry on the Jones River (MHC 1984: 4). Throughout the eighteenth century Kingston's wharves along Landing Road and Rocky Nook served as important import and export trade centers with goods arriving and being shipped to Boston, Salem, the West Indies and Great Britain. Tryworks were erected north of the Landing Road wharves in association with a soap factory, both of which serviced whalers who left Rocky Nook from the mid eighteenth century on (MHC 1984: 4).

The Federal Period (1775-1830) saw slow growth in Kingston's population and an expansion of Kingston's fishing fleet. Industry remained strong along the river and brooks with iron and nail manufacturing as well as shoemaking growing in prominence (MHC 1984: 5).

The Early Industrial Period (1830-1870) saw Kingston reach its peak of manufacturing with many people employed in the shipyards or one of the 24 mills present by the 1830s in the town (MHC 1984: 6). Shipbuilding did see a decline as the period went on, eventually leading to a cessation of this activity in 1887 (MHC 1984: 7).

The Late Industrial Period (1870-1900) saw a fairly steady growth in population with an influx of foreign born immigrants working in te tack, brad, rivet and nail companies in town (MHC 1984: 8). The railroad reached Kingston in 1879 with the construction of the Duxbury Branch Railroad, which brought wealth and Tourists from the boston area (MHC 1984: 8).

C. Kingston Archaeological Sites

In the Massachusetts Historical Commission sites files, a total of 51 pre-Contact and Contact Period sites have been identified by both professional and avocational archaeologists in Kingston. Of these 51 sites, only 19 or 37% had temporally identifiable components. The remainder of the sites are identified generally only information stating that artifacts had been recovered but with no identified materials being listed. Of the 19 identified sites, nine were single component and ten were multi-component. From the 19 sites where temporally identified components were present, a total of 35 components were present. The most common type of site in were of Late Archaic age, a situation typical of southeastern Massachusetts towns.

When the unknown sites are removed from discussion, the remaining components show a truer distribution of sites from the various time periods (Table 1).

Table1: Components identified (Total sites, unknown excluded)

	Kingston
Paleoindian	0
Early Archaic	1/ 2.9%
Middle Archaic	2/ 5.7%
Late Archaic	17/ 48.6%
Early Woodland	5/ 14.3%
Middle Woodland	3/ 8.6%
Late Woodland	5/ 14.3%
Contact	2/ 5.7%
Total	35

The most common types of sites in Kingston date from the Late and Transitional Archaic Periods with Early and Late Woodland sites being the second most common. The locations of the sites can help to form predictive models of where sites are expected to be found in the future (Table 2).

Table 2. Kingston sites on file at the MHC

Site Location	Component	# of Components	# of Sites	Ratio
Pond/ Lake		11	11	1:1
	Shell heap	1	1	
	Quarry	1	1	
	Unknown	6	6	
	LA	3		
Upland		6	6	1:1
	Unknown	6	6	
River		20	16	1.25:1
	Unknown	9	9	
	Shell Heap	1	1	
	LA	4		
	EW	2		
	MW	1		
	LW	2		
	Contact	1		
Brooks		32	18	1.8:1
	Unknown	11	11	

	Shellheap	2	2	
	EA	1		
	MA	2		
	LA	5		
	EW	3		
	MW	3		
	LW	4		
	Contact	1		

Pre-Contact and Contact period sites in Kingston occur in four general locations: pond or lake shores, rivers, brooks and in upland locations. The majority of the sites identified to date have been located along the edges of the Jones River (n=20) and the Halls, Smelt and Second brooks (n=32). Table 2 shows the distribution of sites and components in each of these contexts. It can be seen that **upland** locations contained sites of unknown type, generally indicating short term activity not directly associated with any particular water source. Based on similar sites from other towns, these likely represent Late Archaic occupation and utilization of upland resources for brief periods of time. **Pond and lake** sites represent a variety of activities such as quarrying and shellfish consumption as well as lithic reduction with all of the sites with components dating to the Late Archaic. Sites along the **Jones River** were found to date to from the Late Archaic to Contact periods. The ratio of components to sites along the Jones River was 1.25 : 1. Sites along the **brooks** in Kingston had the widest range of datable components and the earliest components as well. All of the Early and Middle Archaic sites were located along Hall and Second brooks as well as the majority of the Middle and Late Woodland sites. The ratio of components to sites was found to be 1.8 : 1. When compared to riverine locations, brook side sites saw longer periods of occupation as well as more multi-component sites. Multi-component site identification indicates that the site location contained certain environmental variables that people thousands of years apart found favorable. This indicates that brook side locations may have had more resources available or had resources that were accessible for more of the year.

One site that is very similar in many aspects is the Powers shell heap. This site is located on the sheltered eastern side of Russell's and Foundry Pond in Kingston. It was excavated by the Massasoit Chapter of the Massachusetts Archaeological Society. their work identified several stone-lined hearths, many shellfish and faunal remains, many sherds of Vinette 1 pottery and a lug-handled steatite bowl handle (Sherman 1960: 18). Numerous pieces of worked bone were also recovered including items such as awls, fish hooks, arrow points, and "bodkins" or "daggers" made from deer ulna (Sherman 1960:18). Two steatite pipe bowl fragments, three section of white clay pipe stems, one iron chest key, two cast bronze buckles, one large iron fish hook, one bone lice comb and several rolled copper beads, one copper "axe", and pistol or gunflints all of which point to either Contact Period occupation or later European occupation of this area (Sherman 1948:75; 1960: 8).

D. Material Types

Below, brief descriptions of the common types of materials that were identified in the Kingston Public Library Local History Room collections, are given.

1. Argillite

Argillites are fine grained sedimentary rocks (like mudstone and slate) that have been metamorphosed to varying degrees. As a result, these stones are harder than their original sedimentary rock and thus suitable for limited stone knapping to produce tools. Unfortunately, argillites still maintain a degree of sedimentary platyness and have a tendency to flake in layers, making them somewhat difficult to work. Types of argillite include Black (originating in the Delaware River Valley of New Jersey and Pennsylvania), Maroon (originating from the Chicopee shales in western Massachusetts), Blue-Grey, Tan, Grey (all originating from either the Cambridge slates in the Boston basin or Barrington, Rhode Island), Green Platy (originating in Barrington, Rhode Island and also occurring in glacial drift deposits in the Taunton River Basin), Banded (originating in the Cambridge slates in the Boston basin) and Coarse grained green (Originating in Hull, Massachusetts). Argillites are common in glacial drift deposits in many locals in eastern Massachusetts and occur predominantly in the Late Archaic, although they were also used to a lesser degree in other time periods.

One oval green grey biface, one green grey lenticular biface, two drills(one grey and one green grey), one grey Otter Creek, two green grey Susquahannah Broad, one tan grey Neville, and one grey Atlantic points were recovered. The majority of the recovered points were from the Late and Transitional Archaic Periods, indicating that argillite was most commonly used during this period, with some use during the Middle Archaic.

One argillite Small stemmed point was recovered from site 19-PL-817, which was located on Second Brook.

2. Cryptocrystalline Silicates

These sedimentary rocks are extremely fine-grained and as a result, are the perfect type of stone for flint knapping. There are few fractures running through them and due to their tight molecular crystalline structure, the flake with sharp straight edges. None of the cryptocrystalline silicates found archaeologically are known to occur as outcrops in Massachusetts and when recovered from a site are generally believed to have arrived through trade or were carried there by the past inhabitants. This class of lithic includes chalcedonies and cherts. **Chalcedonies** include Grey, such as Ramah chalcedony (originating in northern Labrador) and White (originating from Flint Ridge, Ohio). **Cherts** include Green, such as Cocksackie and Deepkill, (outcropping in the Hudson Valley), Grey (outcropping in the Western Onondaga formation, New York), Grey and Brown Mottled, commonly associated with Meadowood points (outcropping in the Western Onondaga formation, New York), Scoracious or pitted (outcropping at Fort Ann, New York), Banded, commonly associated with Paleoindian sites, Black (outcropping at Normanskill, Fort Ann, Helderberg and Munsungen Lake, New York), Dark Brown (occurring in the Normanskill and Central Onondaga formations, New York), White, a weathered variety of black or brown chert, and Fossiliferous, or those containing fossils.

Two chalcedony flakes are present in the Cram Collection, one grey piece with a tan core and one tan flake that has the shape of a possible Paleo-Indian channel flake. One rectangular biface, one triangular biface, one oval biface, one parallel sided drill, one T-shaped biface, two Brewerton eared points, one Small Stemmed point with a rounded base, one Atlantic point, and one Genessee point. The chert artifacts from the Cram Collection were all greys and dark greys, likely from the Onondaga or Normanskill formations in New York.

Chert has been recovered from three sites in Kingston, 19-PL-476, 786 and 818. At 19-PL-476, which was located on the Jones River, a black chert Genessee point was recovered and one flake was recovered from both sites 19-PL-786 and 818, respectively located on Smelt and Second brooks.

3. Felsites/ Rhyolite

The term felsite and rhyolite are used interchangeably by archaeologists, leading to heated discussions about which is the correct one. Both terms can be used to describe the same lithic type, basically intrusive volcanics formed by the rapid cooling of granite magma. Felsite/ rhyolites are fine grained with dark or light crystals (phenocrysts), essentially bits of volcanic crystals, imbedded within the matrix. They can have no visible phenocrysts (aphenitic felsite/ rhyolite) or have large, prominent ones (porphyritic felsite/ rhyolite). The phenocrysts may be large or small and banding may also be present. Felsite/ rhyolites commonly occur in glacial drift deposits and are often encountered as rounded cobbles on beaches. The original parent source of these stones appears to have been in the northeastern quarter of Massachusetts.

Felsite/ Rhyolites include Black with white phenocrysts (originating in the Newbury Volcanic Complex), Green Fine-Grained, a dark green felsite lacking visible phenocrysts (originating in the Lynn Volcanic Complex in Melrose, Massachusetts), Maroon/ Purple/ Red (originating in the Lynn Volcanic Complex in Marblehead, Massachusetts), Grey with dark small phenocrysts (originating in the many volcanic complexes), Blue-Grey with dark phenocrysts (originating in the Blue Hills Complex in Braintree, Massachusetts), Cream and Rust Stained coarse grained grey green to tan with pyrite crystals (originating in the Mattapan Volcanic Complex in the Sally Rock Quarry in Hyde Park), Red Banded with dark red to pink fine banding or swirls on a light red, tan or cream matrix, also called Mattapan Red Felsite (originating in the Mattapan Volcanic Complex on the Neponset River), Red to Maroon Porphyritic with dark red or white phenocrysts (outcropping in Hingham, Massachusetts), Green porphyritic visible dark glassy and white phenocrysts (outcropping at Mount Kineo on Moosehead lake in Maine), Red light red to pink with a coarse texture phenocrysts may or may not be visible but are pink or tan feldspar or translucent silica glass, banding may occur in same composition as phenocrysts, also known as Attleboro Red Felsite (outcropping in Attleboro, Massachusetts), Banded and Other Porphyritic.

Two hundred and nineteen pieces of rhyolite chipping debris are present in the Cram Collection, along with six cores, 87 rhyolite bifaces, one uniface, one drill, three hammerstones, one abrader, one full-grooved axe, and 104 rhyolite projectile points. The bifaces included one blocky, one round, 28 square or rectangular, three stemmed, 12 triangular, 17 oval, 15 lenticular, 6 amorphous shaped, two tear-drop shaped, one T-shaped, one curved, one drill, and one uniface. Projectile points included 28 Levannas, five Squibnocket Triangles, seven Brewerton eared, one Meadowood, three Small Stemmed, ten Greene, four Fox Creek, four Jack's Reef, three Rossville, two Adena-like, one Genessee-like, 13 Orient Fishtail, five Atlantic, four Susquahannah Broad, ten Starks, four Nevilles, and one Neville-variant. The raw material rhyolite likely came from cobbles collected on beaches or generally from glacial outwash deposits. Rhyolite was utilized for a wide variety of tools, especially as bifaces and projectile points. It was also a favored raw material in all the periods represented in the collection.

Rhyolite has been recovered at most of the sites that have been identified in Kingston.

4. Volcanics

Volcanics is a sort of catch all classification encompassing several classes of material. **Hornfels** are dark grey to black metamorphosed lithics formed by the baking of sedimentary deposits by cooling bodies of magma and are found in quarries in the Blue Hills outside of Boston. Rhyolitic Tuff is orange to tan with a coarse sandy texture and no phenocrysts (originating in the Newbury Volcanic Complex). **Brown Jasper** is a brown to yellow fine grained cryptocrystalline silicate also known as **Pennsylvania Jasper**. It originates in Pennsylvania but may also be found in Conklin, Rhode Island. **Red to Maroon Jasper** is also called **Saugus Jasper** and is an igneous rock (originating in the Lynn Volcanic Complex). It is a fine grained, glassy and aphenitic varying in color from maroon to light pink with yellow to tan banding. **Igneous** is a term used to identify any lithic types that do not fall within the other classifications.

Two hornfels bifaces, one rectangular and one fragment, are present in the Cram Collection, as well as one adze, one Brewerton eared, one Greene, one Fox Creek, one Jack's Reef and five Levannas. Hornfels, which was likely traded from the Boston area, appears to have been initially used to a limited degree in the Late Archaic and Middle Woodland Periods and had its peak in use during the Late Woodland. One possible hornfels scraper was recovered from site 19-PL-559 located at the junction of the Jones River and Silver Lake.

Few pieces of Saugus Jasper are present in the Cram Collection. Three flakes were recovered as well as one Brewerton Eared point. It appears that Saugus Jasper saw limited use during the Late Archaic.

Pennsylvania Jasper is present in the Cram Collection in the form of one point tip, one biface fragment, one piece of chipping debris and one Jack's Reef Pentagonal point. Pennsylvania Jasper appears to have had limited utilization during the Middle Woodland Period. One untyped Pennsylvania Jasper point was recovered from site 19-PL-556 at the junction of the Jones River and Silver Lake.

5. Crystalline Silicates

This class includes quartz and quartzites. Quartz may include Crystalline, Milky or smoky. Quartz is a vein forming mineral that was deposited in the fissures in other rocks. Quartzite, a metamorphosed sedimentary rock that originated as ancient beaches with a coarse grained texture and no phenocrysts of banding, commonly occurs in glacial drift deposits. Sources for quartzite have been identified in Westboro in the Sudbury and Assabet Drainages and Worcester at the South Bay quarry. Quartzite that has been highly metamorphosed is called metaquartz or mylonite. These are extremely fine grained occasionally with a glassy texture ranging from green to light green to white. These have been identified from the Concord/ Sudbury and Ware/ Quaboag drainages and may outcrop in Central Massachusetts.

6. Other Materials

Sandstone, a soft sedimentary rock with a coarse texture was often used for abrading and sharpening tools. **Schist** is a metamorphosed sedimentary rock. One form, an **amphibolite schist**, is dark grey to dark green and coarse grained to the point of resembling quartzite with platy fracture patterns. This was often used on Middle Archaic Stark points. **Slates** are metamorphosed mudstones with platy fracture properties.

III. Collection Analysis: Cram Collection

A. Reduction Debitage

A total of 556 pieces of lithic reduction debitage (cores, shatter and flakes) are present in the Cram Collection. The abundance of debitage makes the Cram collection unlike many other contemporary avocational archaeologist's collections. Cram appears to have known the importance of collecting the less exciting debitage as well as the usual projectile points and stone tools. A variety of materials were represented by debitage (Table 3). The majority of the debitage

Table 3. Reduction debitage from the Cram Collection

Material	Count	Percentage
Rhyolite	225	40.5%
Quartz	308	55.4%
Quartzite	9	1.6%
Saugus Jasper	3	.5%
Pennsylvania Jasper	1	.2%
Slate	3	.5%
Granite	1	.2%
Sandstone	1	.2%
Siltstone	1	.2%
Attleboro Red Felsite	1	.2%
Volcanic	1	.2%
Chalcedony	2	.4%
Total	556	100%

originated from the reduction of quartz cobbles with rhyolite being also used to a slightly lesser degree. Ten other raw materials were present, but none of them occurred anywhere near the overwhelming predominance of the quartz and rhyolite.

Table 4 divides the reduction debitage down into chipping debris, shatter and cores. Chipping debris are the formal flakes that are struck off of cores and tools as the reduction sequence progresses. Shatter are the informal, sharp edged, more chunky pieces of lithic debris resulting from the breakage of a core or raw material. Cores are the raw material source that flakes are struck off and shatter originates from.

Table 4. Reduction debitage separated by debitage type

Material	Flake	Shatter	Core
Rhyolite	212	7	6
Quartz	271	34	3
Quartzite	8	0	1
Saugus Jasper	3		
Pennsylvania Jasper	1		
Slate	2		1
Granite	1		
Sandstone	1		
Siltstone	1		
Attleboro Red Felsite	1		
Volcanic	1		
Chalcedony	1		1
Total	503	41	12

Several pieces of quartz, quartzite, rhyolite and one piece each of slate and chalcedony, bore cortex on their surfaces. The presence of cortex is indicative of the raw material having originated as glacial cobbles as opposed to quarried raw material. Table 5 summarizes the cortex bearing debitage present in the Cram Collection.

Table 5. Cortex bearing debitage present in the Cram Collection.

Material	Flake	Shatter	Core
Rhyolite	8	6	0
Quartz	1	8	1
Quartzite	2	0	1
Slate	0	0	1
Total	11	14	3

B. Bifaces

A total of 146 bifaces and biface fragments are present in the Cram Collection. The following types of bifaces were identified:

Blocky	11
Round	2
Square/ Rectangular	35
Stemmed	5
Triangular	25
Oval	28

Lenticular	19
Biface Fragments	14
Teardrop/ Diamond	4
T-Shaped	2
Curved	1

Some of these bifaces may represent preforms of projectile points or may be finished tools themselves. The catch-all category of biface encompassed both types of artifacts. As can be seen in Table 6, the majority of the bifaces were made of either quartz or rhyolite. Quartzite was the next most common raw material, followed by chert.

Table 6. Biface raw materials

Bifaces	Count	Percentage
Rhyolite	87	59.2%
Quartz	33	22.4%
Quartzite	9	6.3%
Chert	4	2.8%
Slate	3	2.1%
Granite	3	2.1%
Hornfels	2	1.4%
Pennsylvania Jasper	1	.7%
Argillite	1	.7%
Attleboro Red Felsite	1	.7%
Volcanic	1	.7%
Sandstone	1	.7%
Totals	146	100%

C. Drills

Five bifacially worked drills are present in the Cram Collection. A tool is identified as a drill if it has roughly parallel sides and a steeply angled point. Drills were used to work wood, bone and steatite. Two of the drills present are made of argillite and the remaining three are made of rhyolite, chert and quartz. The quartz drill is T-shaped and the chert one is 8.8 cm long and parallel-sided.

D. Unifaces

Along with the 146 biface and biface fragments, 23 unifacial tools were recovered. Unifaces are tools with only one face or side that was worked, whereas a biface has two sides that are worked. Unifaces may have been used for specific purposes or as quickly produced tools which were used and discarded soon thereafter. The majority of the unifaces were made of quartz, a raw material that lends itself to easy breakage and rapid creation of unifacial tools. One rhyolite uniface is also present in the collection.

E. Projectile Points

A total of 203 complete or mostly complete projectile points are present in the Cram Collection. The majority of these points (n=82) dated to the Late to Transitional Archaic Periods Table 7.

Table 7. Projectile points in Cram Collection

PALEO-INDIAN 13,000-10,000 BP		0
EARLY ARCHAIC 10000-8000 BP	0	
MIDDLE ARCHAIC 8000-6000 BP		19
Neville 8000-7000 BP		5
Neville variant	1	
Stark 7500-6500 BP		13
LATE ARCHAIC 6000-3500 BP		62
Otter Creek 6000-4500 BP		1
Brewerton Corner Notched 5500-4500 BP		12
Small Stemmed 6000-4000 BP		17
Squibnocket Triangle 5000-3500 BP		21
Genessee 5000-3500 BP		2
Atlantic 4100-3600 BP		8
TRANSITIONAL ARCHAIC 3500-2700 BP		20
Susquahanna Broad 4000-3000 BP		6
Orient Fishtail 3000-2000 BP	13	
Meadowood 3000-2500 BP		1
EARLY WOODLAND 2500-2000 BP		8
Rossville 2500-1500 BP		3
Adena 2800-1200 BP		5
MIDDLE WOODLAND 2000-1200 BP		26
Greene 1800-1200 BP	14	
Fox Creek Stemmed 1800-1300 BP		6
Jack's Reef Pentagonal 1600-1100 BP		6
LATE WOODLAND 1200-400 BP		68
Levanna 1300-400 BP		68

The temporal distribution of the points indicates occupation of the sites excavated by Cram beginning in the Middle Archaic, peaking in the Late to Transitional Archaic, falling off in the Early Woodland and rebounding in the Middle Woodland before peaking again in the Late Woodland.

The raw materials used for the manufacture of the projectile points paralleled the materials used for the reduction debris and bifaces (Table 8). Rhyolite was used the primary raw material used

Table 8. Raw materials of projectile points from the Cram Collection

Material	MA	LA	TA	EW	MW	LW	Total
Quartz		34				32	64/ 31.5%
Rhyolite	16	14	19	5	18	28	100/ 49.3%
Quartzite		1		3	4	3	11/ 5.4%
Argillite	2	4	1				7/ 3.4%
Hornfels		1			3	5	9/ 4.4%
S. Jasper		1					1/ .5%
P. Jasper					1		1/ .5%
Slate		1					1/ .5%
Sandstone	1						1/ .5%
Chert		6					6/ 3%
	19	62	20	8	26	68	203

in all periods. Quartz saw its primary use during the Late Archaic and Late Woodland Periods. Quartzite was used from the Late Archaic through the Woodland Period. Argillite appears to have been used primarily during the Archaic, while hornfels was used mainly in the Middle to Late Woodland and to a lesser degree, during the Late Archaic. Saugus Jasper, slate, sandstone and chert were all used only during the Middle or Late Archaic while Pennsylvania Jasper was used in the Middle Woodland.

The occurrence of exotic or traded materials, hornfels, the jaspers, and chert, in the Late Archaic, Middle and Late Woodland periods indicates a general pattern of extra regional trade or interaction. In Middle Archaic, populations appear to have maintained fairly localized spheres of interaction, at least in terms of lithic raw materials. Populations may have been trading for perishable stuffs, skins, plant materials, wooden objects, that do not survive archaeologically, but based on the lithic artifacts, they appear to have been more localized in their travel and contact. During the Late and Terminal Archaic, interaction with populations to the west appears to have increased, subsequently falling off in the Early Woodland. Trade then increased in the Middle Woodland with the focus being towards the Boston Basin and Pennsylvania, or at least in association with trade routes that included these areas to the exclusion of New York State. The Late Woodland saw only trade with the Boston Basin being represented, possibly due to the rise of the Iroquois and the Mohawk, which may have its origin during the Middle Woodland Period.

Additionally, one projectile point tip made of Pennsylvania Jasper is present, likely dating to the Middle Woodland.

F. Other Stone Tools

Other stone tools aside from the chipped stone artifacts are present in the Cram Collection. The presence of a wide variety of tools, likely from Smelt Pond sites, indicates that a wide variety of activities took place at the sites that Cram excavated. This points towards these being larger sites that were occupied for a significant part of the year. The tools present include one piece of worked graphite which was likely used for body decoration as well as 13 hammerstones of various materials (slate,

granite, rhyolite, and quartzite) and one anvil used to reduce and process lithic raw materials. Other tools included one possible schist hoe, nine abraders used for sharpening stone tools, one grey slate pendent, six full-grooved axe heads, three adzes, five plummets and net sinkers, and two granite pestles. The variety of tools indicate that lithic raw material was being reduced, plant materials were being grown and processed, ground stone tools were being made or sharpened, wood was being worked and fish nets and lines were being used.

Three other possible stone tool artifacts are present including two fragments of possibly worked granite and one possibly worked piece of schist.

G. Steatite

Forty-one fragments of Transitional Archaic steatite (soapstone) bowls are present in the collection. Steatite is considered a potential sign of a more sedentary existence by Native people during the Transitional Archaic. The presence of so many steatite fragments likely indicates that the sites excavated by Cram were locations of larger communities that saw occupation for an extended period of time. Steatite is a material that would have had to have been imported or traded from central Massachusetts or Rhode Island. It is often found in burial contexts and is considered a luxury good that may have had religious or ceremonial associations.

The steatite vessels from the collection had rim diameters of 6 cm, 10.5 cm, 13 cm, 14 cm, 20 cm, 22 cm, 28 cm, and 30 cm. It appears that there are several vessels represented in the collection. Body thicknesses ranged from .6 to 3.2 cm. Body thickness differs in different sections of the body and can vary widely in one vessel. Several fragments of steatite were very porous with numerous pits in them that were the result of softer minerals leaching out. Lug handles were present on three fragments. Four fragments bore drill holes that were the result of attempts to repair a cracked or broken vessel. The presence of repair holes indicates that these vessels were curated and likely used for an extended period of time before finally being too broken to be used further.

H. Pottery

Ninety-eight fragments of Native pottery are present in the collection, the majority of which (n=69/70.4%) are tempered with fragments of shell. The remainder are tempered with crushed rock. Shell-tempered pottery was used more in the Middle to Late Woodland Periods, while Grit/ gravel tempered pottery was first made in the Terminal Archaic, and continued to be produced into the Late Woodland.

The shell-tempered pottery fragments consisted mainly of body fragments but 25 rim fragments were also present. The rim shapes present included squared, rounded, and squared and everted. Squared rims are commonly found on vessels dating to the Middle Woodland Period. Several fragments were also decorated. Decorative techniques included the use of diagonal lines across the top of a squared rim, a squared rim with diagonal lines and an incised line on the exterior, dentate stamping on the exterior of the vessel near the squared rim which had diagonal lines on top of it, scalloped shell marks decorating the upper half of the exterior, and a punctate design running vertically on the exterior. Two of the fragments were large enough to estimate the size of the vessels that the fragments came from. One had an exterior rim diameter of 18 cm while the other had an exterior rim diameter of 28 cm. Many of the vessels bore evidence on their exteriors of the cord wrapped paddle that was used to help shape and firm up the clay, while the interiors of the fragments were wiped smooth. All of the decorative elements described above were predominantly in use during the Middle Woodland Period.

The grit-tempered pottery fragments also had cord-wrapped paddle marks on the exterior. Two were decorated with a dentate pattern, just like the shell-tempered fragments. One fragment was found to have incised lines around the rim. Two fragments were large enough to measure the original vessel diameter. In both cases it was found to be 22 cm on the exterior. Generally the decoration found on the grit-tempered fragments also points to a Middle Woodland origin for these sherds.

I. Bone

A total 2885 fragments of bone are present in the Cram Collection. Eighteen species were identified including medium sized mammals, small mammals, birds, turtles and domestic mammals (Table 9). The majority of the fragments came deer with unidentified medium-sized

Table 9. Faunal remains from the Cram Collection

Species	Count	MNI
Medium Mammal	2741	11
Longbone	347	
Longbone Burned	167	
Flatbone	318	
Flatbone Burned	4	
Deer	1900	8
Bear	1	1
Seal	3	1
Canine	1	1
Small Mammal	39	9
Fox	1	1
Beaver	26	2
Raccoon	26	3
Woodchuck	2	1
Rabbit	1	1
Muskrat	3	1
Bird	31	2
Unidentified Bird	1	
Small Bird	2	
Medium Bird	6	
Large Bird	15	
Turkey	6	1
Duck	1	1
Turtle	13	3

Painted Turtle	11	1
Box Turtle	1	1
Plymouth Red Belly Turtle	1	1
Domestic Mammals	7	3
Cattle	4	1
Sheep	2	1
Swine	1	1
Total	2885	

mammal fragments. The variety of species present indicates a that wide variety of resource areas were being utilized by the Native people living here. It is hypothesized that the subsistence system practiced by Late and Transitional Archaic to Early Woodland people was focal, intensive and specialized to a degree. Cleland has characterized this type of system as one that focuses on a limited number of resources to the exclusion of many others. When a system such as this develops, preservation and storage technology to make this resource last for a substantial portion of the year also develops (Cleland 1976:62-63). Specialized technology is also developed to maximize the amount of return and minimize the amount of energy that needs to be expended to procure it (Barber 1982: 96). For example, the use of nets or weirs allows fishermen to catch a great number of fish by merely knowing when and where to put these devices. This type of system seems appropriate for the period in question due to the first appearance of storage pits, pottery and the use of weirs at this time. This is the type of system used by the seventeenth century Wampanoag.

This type of system contrasts with a generalized subsistence pattern that utilizes a broad range of resources with no great effort being placed on maximizing the return through technology or storing it for the winter (Cleland 1976:62-63). Diffuse or generalized systems are continually on the move to arrive at the next resource that is seasonally scheduled to be exploited. Systems such as this have no true home bases and must acquire food as they can. This appears to be the type of system practiced by the Micmac in the historic period and possibly by the users of Small Stemmed technology in the Connecticut River Valley.

The seventeenth century Wampanoag were practicing what is well known to anthropologists as a mobile economy. These people were seasonally migrational so they moved from place to place throughout the year to coordinate the resources of their territory. To these people, the resources they are using are ill-distributed so, as a result, they had developed a specialized successful economy that maintained higher population numbers than could be done if those resources were gathered in isolation by specialized groups (Higgs and Vita-Finzi 1982:28). In Frederick Dunford's view, the Cape Cod Natives practiced a unique human adaptation to the environment which he termed "conditional sedentism" (Bragdon 1996:58). This adaptation had the estuary as its primary focus with its human community "joining and splitting like quicksilver in a fluid pattern within its bounds." (Bragdon 1996:59).

A wide variety of plant and animal species could have been exploited by these people. A list of the plant and animal based on the writing of Roger Williams indicates that 10 species of birds, 8 wild

plant species, 4 cultivated plants, 8 wild mammal species, 16 fish species and 5 shellfish species were exploited by the Natives in southern New England. This source gives a fairly complete inventory of the species. It does neglect many wild species that have been recovered archaeologically and some animal species that Williams did not note. All in all though it shows that the natives had a diverse diet of wild resources which they collected. At least 14 (Alewife, herring, bass, scup, eel, lampreys, chestnuts, acorns, walnuts, strawberries, lobster, clams, oysters, quahog) of the species noted, are known to have been extensively collected and stored for the winter by the Contact Period.

The hunting and collecting of any of these species and the storage of certain ones was not a haphazard affair. People scheduled where and when they would return to various sites to make use of resources. Winslow noted this as early as 1621 when he stated that "...by reason whereof, our bay affording many lobsters, they resort every spring-tide thither; and now returned with us to Nemasket.(Young 1974:96). This springtime movement to the coast to catch lobster was supported by Morton "...savages will meet 500 to 1000 at a place where they come in with the tide to eat and have dried a store, abiding in the place for 4-6 weeks feasting and sporting together." (Morton 1972:90). According to William Wood, the drying of shellfish and fish took place in the spring and summer "In summer these Indian women, when lobsters be in their plenty and prime, they dry them to keep for winter" (Wood 1977:114).

After foods were dried out, many of the vegetable foodstuffs were placed in storage pits (Auquunnash), what the English termed "barnes". The best description of this is by Thomas Morton in 1637 "They are careful to store food for winter, they eat freely of it but put away a convenient portion to get them through the dead of winter. Their barnes are holes made in the earth, that will hold a hogshhead of corn a peece in the. In these (when their corn is out of the husk and well dried) they lay their store in great baskets (which they make of sparke) with matts under, about the sides and on top; and putting it into the place made for it, they cover it with earth.. to be used in the case of necessity and not else." (Morton 1972:42). These are the type of storage pits which the colonists found in 1620 on Cape Cod wherein they found "a bottle of oil, bag of beans...2 to 3 baskets parched acorns" and several bushels of corn (Young 1974:141; 155). During the Late Archaic storage pits make their first appearances in the archaeological record in New England, possibly marking a change in subsistence patterns by these people due to increased population pressure.

The faunal remains from the Cram Collection are a good example of the focal, intensive and somewhat specialized subsistence that was practiced by the Wampanoag in the seventeenth century. A wide range of small and medium mammals, birds and turtles were hunted, trapped and collected. The presence of turtles indicates that the site was likely occupied during the spring to fall, April to October, or from the fall into the winter. The occupants would have had to collected the turtles before the turtles hibernated for the winter. Animals like deer, racoons, and beavers are in their prime in the winter. This is when their fur coats are the fullest and they have a good layer of fat on their bodies. The deer remains may have come from one of the communal deer drives conducted in the fall. Ethnohistorically it is reported that shellfish were often taken by women in the winter and Winslow stated that the best time for fowling was from October to March as the fishing tapered off (Young 1974:294). There were two ways in which birds were caught. They were shot with arrows or they were netted. Williams noted both of these techniques. He stated that they would lay nets "...on shore and catch many fowl upon the plains, and feeding under okes upon acorns as Geese, Turkeys, Cranes and others." (Williams 1971:172). The presence of bird remains but no fish may be the result of the site having been occupied during the fall to winter as opposed to spring and summer.

White-tail deer can reach a maximum length of 206 centimeters long and a maximum weight of 135 kilograms. They prefer farmlands and brushy wooded areas. Deer were the most common animal that was hunted by Native people in the northeast and as a result their bones are fairly ubiquitous at Native occupied sites.

The deer provided the Natives with many raw materials for producing a vast array of their material culture. The meat was eaten of course, the marrow was eaten and used for grease, the hide was tanned with the hair on or off for clothing, the antlers and bone were used as a raw material for tools such as arrow heads and fishhooks, the sinews were used for sewing, the hooves were used for glue and the bladders were used to contain oil. Seventeenth century sources are replete with references to deer. This probably has to do with the fact that they were present in England so the Europeans knew of them, but they had never seen them in such great numbers as they did here.

Deer were hunted either by single hunters or by bands of hunters. When hunting singly, deer may have been stalked a by the hunter much as hunters do today. By observing their habits throughout the year, the hunters would know what locations the deer favored (Williams 1643:224). He would then either hunt the deer with his bow or would set snares and return to check them every day or two. The second way in which deer were hunted was communally. This could be done either by stalking or by setting snares as well. These would be large parties who went out to do this. Williams stated that 20 to 300 men might go out to pursue the deer on foot. During the trap hunting the men would bring their wives and children if they did not need to travel far and build a small impermanent house which was their hunting lodge. They would then stake out their bounds for their family that might be 2-4 miles and would set 30-50 traps and check these every few days (Williams 1643:224).

The importance of the deer to the people can be seen in the number of names that they used to describe them. The general name for deer was 'ahtuk' but the people further differentiated between ages and sexes. A 'paucottauwat' was a buck while a 'Wawunnes' was a young buck. A 'qunneke' was a doe and a 'moosqin' was a fawn (Williams 1643:224). Distinctions were made for a number of reasons. One may have had to do with different qualities of the meat of the deer. Josselyn stated that the flesh of the fawns was considered the best (Josselyn 1672:99). It also may have had to do with the spiritual connection that the people felt they shared with the deer. Unfortunately this was not explicitly stated by any of the seventeenth century authors, merely hinted at. For example, Williams wrote that the Natives were "...very tender of their traps and where they lie, and what comes at them; for they say, the deer (whom they conceive has a divine power in them) will soon smell and be gone." (Williams 1643:224). Deer skins were also used as tribute to the sachems of the communities. The sachems had the right to the skin of any deer that was killed either by the hunter or by wolves in water (Williams 1643:224).

Josselyn gives a good description of the hunting done by the Natives to the north of Boston. These people often hunted moose in this area, but the description of their hunting practices. He stated that "They go 30-40 miles up into the country and run down a moose. When he has tired, they cut his throat and skin him, the women take out the heart, cut off the left rear foot and draw the sinews out, and cut out his tongue and as much venison as will deserve to satiate them. At the same time the men pitch camp near a spring and scrape the snow to the bare earth. In the middle they make a fire near a tree and hang their kettle from one of the branches of the tree and boil the venison...They do not trouble themselves with the horns of the moose or the deer because they are weighty and cumbersome. They leave the carcass out there for the wolverines." (Josselyn 1672:99). This was probably much the

same way that the Natives in southeastern Massachusetts hunted deer during the large drives in the fall. They would slay a large number of deer, take the meat and other parts they wanted and leave the rest. In fact, the Pilgrims found a deer near Plymouth in 1621 that had its horns cut off and nothing else (Young 1974: 36).

The amount and number of deer elements present (Table 10) indicate that complete carcasses were brought back to the site for processing. A minimum of eight individual deer were identified in the collection. These deer ranged in ages from three individuals that were over 26 to 42 months old and two individuals that were under 26 months old.

Table 10. Deer elements present

Deer	Cram
Cranial	36
Antler	35
Mandible	84
Teeth	70
Hyoid	1
Scapula	19
Humerus	71
Ulna	7
Radius	40
Carpal	20
Metacarpal	38
Vertebra	91
Rib	251
Pelvis	25
Femur	99
Patella	2
Tibia	79
Sesamoid	10
Calcaneum	24
Astragalous	13
Tarsal	13
Metatarsal	109
Metapodium	15
Phalange	102
Totals	1954

J. Shell

Fifty-three fragments of shell from ten species are present in the collection (Table 11). Soft-shell clam represented the majority of the species identified, followed by oyster and quahog. All species present would have been available at the mouth of the Jones River or in Plymouth Harbor.

Table 11. Shellfish from the Cram Collection

Species	Count	Percentage
Quahog	6	11.3%
Soft-Shell Clam	25	47.2%
Oyster	7	13.2%
Horse Mussel	3	5.7%
Channeled Whelk	2	3.8%
Surf Clam	2	3.8%
Sea Scallop	1	1.9%
Bay Scallop	1	1.9%
Moon Snail	5	9.4%
Blue Mussel	1	1.9%
Total	53	100%

There are numerous references to shellfish in the seventeenth century records. Edward Winslow of Plymouth, noted that they could be found on Cape Cod at the Native village of Manomet, present day Bournedale, along with oysters, mussels, clams and razor clams (Young 1974:306). Roger Williams noted that the “Sequnnock, Poquauhock” or horsefish were what the “English call hens, a little thick shell fish which the Indians wade deep and dive for, and after they have eaten the meat there (in those which are good) they break out the shell, about one half of an inch of the black part of it, of which they make their Suckauhock, or black money, which is to them pretious.” (Williams 1971:182).

Edward Winslow mentioned that in March of 1623 the colonists ate clams as well as mussels (Young 1974: 306, 329). John Pory, an early visitor to the colony, noted in 1622 that they had clams and mussels in that place all the year long (James 1963b:09). Thomas Morton, during his stay at Merrymount (present day Quincy), took note that every shore was full of clams and that the Natives took great delight in them (Morton 1972:90). William Wood noted, in somewhat derisive terms, that raccoons and “Indian women” feed upon clams at the sea shore, that they were not much unlike a quahog (cockle) and occurred in great plenty (Wood 1977:44, 56). Once again Roger Williams provides us with our most detailed commentary upon the Native use of clams “Sickissuog Clams

This is a sweet kind of shellfish, which all Indians generally over the country, winter and summer delight in; and at low water the women dig for them: this fish, and the natural liquor of it, they boil, and it makes their broth and their Nasaump (which is kind of thickened broth) and their bread seasonable and savory instead of salt: and

for that the English swine dig and root these clams at low water wheresoever they come, and watch the low water.” (Williams 1971:182)

Finally, John Josselyn noted that clams were one of the first marine resources to be gathered in the spring (Josselyn 1672:100).

K. Worked Bone

In association with the deer bones, seven objects made of worked bone were recovered. These included three awls, used for perforating, one antler tip possibly used for flint knapping, two fragments of polished bone and one pendent with small cuts on the edges. These objects all appear to have been made from various deer elements including the metatarsal, femur and antler.

L. Natural/ Modern/ Historic materials

The Cram Collection also contains several natural objects or objects that clearly did not have a Kingston origin. Both classes of objects are listed below:

- 1 Lithic Obsidion Obsidion point not local
- 1 Lithic Talc oval talc fragment with hole drilled in middle local?
- 3 Lithic Quartzite Oval stone beads drilled with a stone drill 2.6cm long .6cm diameter hole
2.9 cm long 1cm diameter hole
- 1 Bone Tool Bone harpoon point likely from Alaska
- 1 Bone Walrus Large possible walrus tooth recent
- 79 unmodified pebbles
- 1 Flora Wood Recent chewed beaver wood
- 1 Wood Wood fragment natural
- 1 Flora Nut Recent hickory nut hull
- 6 Flora Charcoal fragments
- 1 Flora Wood Twig
- 2 Floral Charcoal fragments
- 1 Floral Wood
- 3 Wood Charcoal fragments

The collection also includes several recent artifacts including the following:

- 11 Coal fragments
- 1 Possible poured cement fragment
- 2 Sewer Pipe Modern sewer pipe fragments

The collection also contains seventeenth through nineteenth century artifacts from unknown locations.

- 1 Borderware pipkin Leg
- 2 Pipe 4/64" diameter TD pipe
- 1 Pipe 4/ 64" diameter stem S 78 W. White /Glasgow Scotland
- 1 Pipe stem McDougall/ Scotland
- 1 Pipe Stem 4/64"
- 1 Pipe 18th century RT incised on bowl 5/64" Stem bore
- 1 Redware 18th century redware with dark brown interior glaze
- 1 Redware black interior glaze
- 1 Redware fragment glaze missing
- 1 Iron rust fragment

- 6 Iron slag fragments
- 1 Hand-wrought nail
- 3 Possible hand-wrought nail fragments
- 3 Metal Copper Nails 2.7 cm long all heads bent over
- 2 Iron Oxen shoes
- 1 Flint Grey flint fragment
- 1 Melted glass fragment
- 1 Glass Slag fragment

IV. Collection Analysis: Allerton Site Collection

In May of 2005, the Kingston Public Library Local History Room acquired the collection of artifacts excavated in 1972 from the Allerton Site in Kingston, Massachusetts. The collection formerly resided in a basement display case in the house that was being built when the site was first identified. The collection consists of 121 artifacts including many of the most important artifacts that helped to date the site to the early through late seventeenth century. The general categories present are shown below:

Brick	6
Native	11
Shell	6
Metal	37
Coal	1
bottle glass	16
Flat glass	28
Pipes	8
Ceramics	6
Flint	2
	121

The remainder of the collection from the Allerton site is curated at Plimoth Plantation. Initial analysis has been conducted by Craig S. Chartier MA and a report is in preparation. Throughout the course of the following discussion, reference will be made to the analysis that has already been conducted and how the Kingston Public Library Local History Room collection fits in with it.

A. Bricks

Six brick fragments were present in the collection. Two of these had measurable attributes. One measures 10.4 wide and 6.6 cm tall and has a vitrified exterior, very thick large pebble inclusions and longitudinal sand-strike marks 3 sides. The second brick measured 10.8 cm wide and 5.1 cm tall and was of a finer quality with longitudinally struck sand marks on three sides. The bricks present in the Plantation collection are also of this size.

B. Native Material

Eleven pieces of Native American lithic material are present. This collection includes five complete projectile points: three Late Woodland Levanna points (quartz, hornfels, rhyolite), one Late Archaic Greene point of rhyolite and one Middle Archaic Neville Variant point made out of rhyolite. Two drill tips are present, one of normanskill chert and one of rhyolite. Two rhyolite bifaces are present, as well as one two-holed soapstone gorget with incised lines on both sides and one argillite fragment with a hole in it.

In the Plantation collection, one Neville point dating to the Middle Archaic as well as two Stark points, also from the Middle Archaic. A second occupation at the site which left traces was sometime around 5000 to 2000 years ago during the Late Archaic. Within this broad expanse of time, eight spear points were left at the site when the occupants left.

The final lump of time for which we have evidence of native people at the site is from 1600 to 400 years ago, from the Middle to Late Woodland periods. From the size of the points found at the site,

these people were probably using the bow and arrow. The material for two of the arrowheads found at the site were probably highly valued by their owners. One was made out of a type of chert which is only found in New York state. The other is from a type of stone only found in the Reading area of Pennsylvania.

C. Shell

Six shell fragments from four species of shellfish, quahog (n=2), oyster, surf clam (n=2), and soft-shell clam, are present in the collection. In the Plantation collection,

D. Metal

The class of metal includes nails, brass, iron and lead artifacts. A total of 26 nails are present in the Allerton Collection. These are fairly evenly distributed between modern wire nails (n=9), nineteenth century machine-cut nails (n=9) and seventeenth to eighteenth century hand-wrought nails.

The two lead artifacts consist of one fragment of lead or lead alloy that is thin and curved at one end. It may have been part of a spoon or tankard cover. The other lead artifact is a bale seal used to secure packages of cloth prior to shipment. The bale seal is 1.5 cm in diameter with an IR, possibly signifying King James (I or II), on one side with a possible shape of a mermaid, or at least of a woman with her arm in the air on the rear. An imprint of the cloth that was once secured by the seal is visible on the side with the woman.

Five brass or copper alloy artifacts are present including two brass kettle scraps (one with a .5 cm round hole in it), one 2.7 cm long by .6cm wide flower decorated brass buckle, one King James I farthing decorated with a crown on the front and the words "MAG:BRI:CARO:D" and the word REX on the rear. The final brass alloy artifact is a seal top spoon with a fleur-de-lis touch mark. Spoons of this type often have a tin wash over the surface, making them look silver instead of brass, but this one does not. The entire length of the spoon is 14.8 cm, the baluster or terminal end measures 1.3 x 1.3 cm and the bowl of the spoon measures 5.5 x 4.6cm. The wear present on the spoon is indicative of use by a right-handed person.

Twenty-one spoons similar in shape to this one were recovered from the 1920s testing of the site believed to be the location of the Aptuxet Trading Post in Bourne, Massachusetts, but which was later found to date to the late seventeenth to early eighteenth century. present in the assemblage which appears to be a large number for a household, but actually does not seem to represent spoons which were used for eating but may have had other purposes as seen by the modifications present on them. Nine of the spoons have fig shaped bowls and 10 have more oval bowls. There are also two seal and baluster top handles, one trifid handle, one Puritan handle and one acorn top handle. The dating of these spoons is somewhat problematic because it seems that early seventeenth century spoon molds were still being used in the late seventeenth century. All of the dating done in this section comes from an article by Percy Raymond (1949). The fact that the spoon bowls are all tinned does help in dating though. Tinning was a technique which was introduced in middle of the seventeenth century, that is what the word whitened means in the makers mark on some of the spoons. Seven of the spoons exhibit excessive wear and/or modifications. Two spoons are worn at their distal ends, the no number one excessively. The seconds wear is consistent with its possible use in stirring by a right-handed person. Three of the other five spoons have had their bowls bent into a funnel shape and bowl has excessive burning evident on the exterior surface. What these spoons were probably used for was to heat up metal

which have a low melting point such as pewter or lead to be poured into molds. The fact that there are so many spoons at the site can be rectified by the fact that some of them have been modified to serve a different purpose than originally intended. In the late seventeenth and especially the early eighteenth centuries, these types of spoons may have been losing their popularity and someone at the site may have purchased a number of them cheaply to use for metalworking.

Five iron artifacts are present. One 10 cm long iron latch was likely used on either the front or an interior door from one of the seventeenth century houses at the site. One clothing related artifact, a large, 3.7 cm long, clothing hook is present. The remaining three iron artifacts are tools. They include: one pitchfork that is 21.5 cm long, 12 cm wide and has a rectangular plug base; one simple stirrup 13.7 cm high, 12.5 cm wide, with a step measuring 7.8cm x 3.1 cm; and one fireplace shovel 14.8cm long, 13.8 cm wide with a 2.9 cm dia socket. The edges of the fire shovel are curved in either as a purposeful result of someone trying to make it a shovel that would move more ash or debris or accidentally during use.

Metal artifacts in the Plantation collection include 16 window lead fragments, leads that once held diamond shaped quarrels of glass. Three pieces of lead shot and three pieces of lead waste testify to the melting of lead and casting of shot by the occupants of the site. The lead may have originated as lead ingots, window leads or bale seals. Iron artifacts consisted of seven iron knife blades and one possible auger bit.

E. Coal

The collection contains one piece of modern coal. No coal is present in the Plantation collection. This piece entered the archaeological record at some point after the seventeenth century occupation by the Allertons and Cushmans.

F. Glass

A total of 43 glass fragments and one mostly complete wine bottle are present in the collection. The glass category can be sub-divided into flat glass and curved or vessel glass. Flat glass predominantly originates from windows, but may also come from lanterns and mirrors. Curved glass generally comes from some type of vessel. Twenty-nine fragments of flat glass are in the collection, eighteen of which appear to be modern. Ten flat glass fragments are heavily patinated as a result of having been buried for an appreciable amount of time and recovered archaeologically. One piece of modern looking flat blue glass was also present.

Curved glass is represented by one fragments of clear, modern curved glass, seven fragments of seventeenth century wine bottles, one fragment of a seventeenth century square sided case bottle, five fragments of curved, thinner seventeenth century possibly pharmaceutical glass, and one mostly complete late seventeenth century wine bottle. The wine bottle's dimensions are as follows:

Overall height: 31 15 cm

Neck height: 6.2 cm

Rim diameter: 2.8 cm

Body diameter: 12 cm

Basal concavity depth: 1.3cm

Two hundred and thirty-one fragments of glass are present in the Plantation collection. The vessel

glass fragments (n=120) represent a minimum of 13 vessels including five case bottles, three wine bottles, three pharmaceutical bottles and two seventeenth century bottles with unknown shapes. Flat glass was represented by 111 fragments.

G. Clay Pipes

Eight pieces of what were identified as clay pipes were analyzed. One of these was found to be a stick or reed with a hollow center. The remaining fragments consisted of one bowl and one stem fragment, two late seventeenth century large belly bowl fragments, two late seventeenth to early eighteenth century stem/ bowl juncture, and one late seventeenth century heelless funnel pipe bowl with rouletting on the exterior near the rim.

Five hundred and seventy eight clay pipe stem fragments were recovered during the excavations with the majority of them being of the 7/64" size. Of the 429 pipe bowl fragments recovered, seventy can be identified to a particular pipe bowl shape. Ten appear to be from small belly bowls dating from 1600 to 1640, 20 appear to be from medium sized belly bowls dating from 1650 to 1680, 27 appear to be from large belly bowls dating also from 1650 to 1680, and 13 are of the heelless funnel shaped variety dating from 1680 to 1710.

H. Ceramics

Six fragments of what were identified as ceramics were analyzed from the Cram Collection. Two of these were nineteenth century whiteware fragments, one was a seventeenth century tin-glazed vessel fragment, one was a seventeenth century English Staffordshire slipware mug base fragment, one modern window glazing fragments and one piece of calcined medium sized mammal longbone. A significant amount of ceramic material is present in the Plantation Collection. The ceramic assemblage will be divided into three groupings those used for cooking, storage and serving. The ceramics used for cooking were of borderware and redware. There were four pipkins, three pan or puddings and two possible redware cooking pots. This grouping is the smallest of the three as would be expected since most of the cooking was done in cast iron pots and copper or brass kettles and in Thomas Cushman's inventory of 1691 he is noted as having brass, iron pots and kettles and other iron vessels listed which amounted to 4 pounds 7 shillings.

The storage grouping included 30 milkpans of redware and North Devon gravel tempered ware, 24 pots or storage jars, three North Devon gravel free baluster jars and six stoneware jugs or bottles. This is the largest group of vessels and they were mostly used for storing letting cream settle in, such as the milkpans, and for storing dairy and other liquid products.

The serving category is the second largest with a total of 40 vessels. Eight redware and stoneware jugs, six redware, tin-glazed and stoneware, and slipware mugs, 2 tin-glazed and sgraffito plates, eight redware and stoneware jugs, two redware and tin-glazed serving dishes, seven redware possible drinking pots, two redware cups, two redware pitchers, one tin-glazed charger, one redware pot, and two tin-glazed drug or ointment pots.

I. Flint

Two fragments of European, likely English, flint are present. Flint was used for gun flints in flintlock weapons as well as for strike-a-lights which were used for fire starting. The Plantation collection

contained 40 pieces of flint: eight grey flint strike-a-lights, two grey flint gunflints, one tan flint gunflint, five burned flint fragments, 18 grey flint fragments, and six tan flint fragments. The amount of flint recovered indicates that flint nodules were reduced at the site for the production of strike-a-lights and gunflints.

V. Artifact Analysis and Comparison

The lithic assemblage in the Cram collection consisted of a variety of artifacts made from a wide selection of raw materials. These materials included stone types that were likely collected locally (quartz, quartzite, rhyolite, granite) as well as more exotic lithics that would have been acquired either through trade or quarrying (chert, hornfels, jasper). Local lithics were likely acquired either in the form of beach cobbles or from cobbles found along stream or river banks. Exotic materials appear to have come from New York State (chert), Pennsylvania (jasper) and the Blue Hills near Boston (hornfels). The argillite may have come from local sources or it may also have been acquired through trade or collection from the Narragansett Bay region or the Taunton River drainage.

The Cram Collection was compared with two other assemblages: the archaeologically derived 19-PL-820 collection from Kingston, and the avocational collector derived collection in the possession of the Mattapoisett Historical Society in Mattapoisett, Massachusetts. These collections were chosen for comparison because the 19-PL-820 collection, being from Kingston, should allow a comparison between an archaeological collection and an avocational collection in order to see if collector bias could have affected the material present in the Cram Collection. The Mattapoisett Historical Society Collection, on the other hand, would allow a comparison with another avocational collection.

Rhyolite, quartz, and quartzite are the most common lithic types represented in all three collections (Table 12). Exotic lithics (chert, jasper, hornfels) accounted for a total of 3.3% of the Cram Collection, 1.4% of the 19-PL-820 collection and 8.4% of the Mattapoisett collection. Exotics may be over represented in the Avocational collections due to their distinctive nature. Because they generally do not look like the local materials most collectors commonly see, they may be differentially collected, collectors may pick them up more often than they collected the other materials. The difference could also be the result of more of the exotic lithics occurring at the larger sites that are generally targeted by collectors, like the ones excavated by Cram and the ones present in the Mattapoisett collection. These larger sites may represent more substantial camps or winter camps where numerous families would congregate,

Table 12. Material Comparison

	Cram	Tura	Mattapoissett
Rhyolite	418/ 45.6%	132/ 37%	66/ 46.5%
Quartz	410/ 44.7%	176/ 49.3%	37/ 26.1%
Quartzite	30/ 3.3%	16/ 4.5%	13/ 9.2%
Argillite	8/ .9%	3/ .8%	9/ 6.3%
Volcanic	20/ 2.2%	12/ 3.4%	5/ 3.5%
Chert	10/ 1.1%	2/ .6%	6/ 4.2%
Hornfels	11/ 1.2%	3/ .8%	3/ 2.1%
S. Jasper	4/ .4%		
Slate	7/ .8%	1/ .3%	
Chalcedony	2/ .2%		
P. Jasper	4/ .4%		3/ 2.1%
Granite	4/ .4%	12/ 3.4%	
Attleboro felsite	2/ .2%		
Sandstone	3/ .3%		
Siltstone	1/ .1%		
	916	357	142

trade and exchange gifts.

Table 13. Raw material usage comparison by period between Cram and Mattapoissett collections

Material	MA	LA	TA	EW	MW	LW	Total
Quartz Cram		34				32	64/ 31.5%
Mattapoissett		31				4	35/ 30.9%
Rhyolite Cram	16	14	19	5	18	28	100/ 49.3%
Mattapoissett	18	31		4	3	1	57/ 50.4%
Quartzite Cram		1		3	4	3	11/ 5.4%
Mattapoissett	2	5		2	1		10/ 8.8%
Argillite Cram	2	4	1				7/ 3.4%
Mattapoissett	5	3					8/ 7.1%
Hornfels Cram		1			3	5	9/ 4.4%
Mattapoissett	1	1		1	1		4/ 3.5%
S. Jasper Cram		1					1/ .5%
P. Jasper Cram					1		1/ .5%
Slate Cram		1					1/ .5%

Sandstone Cram	1						1/ .5%
Chert Cram		6					6/ 3%
Mattapoissett		3					3/ 2.7%

When the distributions of materials used in each time period is examined for the Mattapoissett and Cram collections (Table 13), the following trends for each material type can be seen:

- Quartz was commonly used in the Late Archaic and Late Woodland at comparable amounts, with a greater utilization of quartz in the Late Archaic as opposed to the Late Woodland. The use of quartz predominantly in these periods may indicate a similar use for quartz as a raw material, or a similar rationale for quartz being selected as a preferred raw material, even though it is one of the more difficult materials to work.
- Quartzite was used in the Middle Archaic in the Mattapoissett Collection but not in Kingston. It was most commonly used in the Late Archaic in Mattapoissett and in the Middle Woodland in Kingston. It was not used for any of the Late Woodland points.
- Argillite usage was common in the Middle Archaic and most widely used in the Late Archaic.
- Rhyolite was the most commonly used raw material in both collections. Usage was most intense in Mattapoissett in the Middle and Late Archaic, but was more widely used in all periods in Kingston.
- Chert was used only in the Late Archaic in both collections.
- Hornfels was more widely used in Mattapoissett in all periods, but in Kingston was limited to the Middle and Late Woodland periods.
- Generally the assemblage from Kingston shows a use of a wider variety of materials. This may be the result of the Cram Collection having a lower degree of collector bias than the Mattapoissett collection. Cram appears to have been a less discriminating collector.

The MHC files have 35 components on record as having been identified in Kingston (Table 14)

Table 14. Comparison of components on file at MHC with components from Cram Collection

	MHC Files	Cram Collection
Paleoindian	0	0
Early Archaic	2.9%	0
Middle Archaic	5.7%	9.4%
Late Archaic	48.6%	40.3%
Early Woodland	14.3%	3.9%
Middle Woodland	8.6%	12.8%
Late Woodland	14.3%	33.5%
Contact	5.7%	0

When the components that are on file at the MHC are compared with those from the Cram collection, it is apparent that more Early Archaic, Late Archaic, Early Woodland and Contact Period sites are on file at the MHC that are present in the Cram Collection. This may be due to the possible differential use of ponds/ lakes, rivers and brooks that is hinted at by the distribution of known sites. Looking at the sites

on file in the MHC site files, there are more unknown and Late Archaic sites on ponds/ lakes whereas most of the sites from other periods are found on brooks and the Jones River. By comparison, assuming that the number of projectile points from a specific period is representative of the degree of intensity of occupation during that period, the Cram Collection shows a preference for Late Archaic and Late Woodland occupation. Another similarity between Late Archaic and Late Woodland periods is the greater utilization of quartz as a raw material. These two facts, the more intense settlement at the sites represented by the Cram Collection and the greater reliance on quartz, may indicate that the cultures of these periods may have been living similar lifestyles or at least procuring similar resources and seasonally settling in similar settings.

The Cram Collection also contained a number of historic artifacts that seem to point towards either English occupation in the seventeenth century or to items that had been traded to the Natives at that time. The presence of border ware, a ceramic type common on early to mid-seventeenth century sites, as well as the domestic animal bones present, seem to indicate that there was an English homesite somewhere in the area where Cram was excavating. It is unknown at the present time who may have lived here or if the site remains intact.

V. Conclusion

A total of 4321 items are present in the Kingston Public Library Local History Room collection. This material comes from two collections, that recovered by Lester and John Cram from the Smelt Pond area of Kingston and an assemblage of artifacts from the Allerton site that was excavated by the late Dr. James Deetz in 1972. The Cram collection represents an atypical avocational archaeologist collections in the sense that the collector was apparently very conscientious, careful and thorough in the collection of a wide range of material from the excavations. Typical avocational collections often contain only complete or semi-complete artifacts and most typically little pottery, faunal remains or chipping debris. It appears that the Cram's recognized the importance of all classes of artifacts and took pains to collect as much as possible. The Crams even went to the extreme of collecting a complete Native feature which is still intact and resides in the collection.

The collections in the possession of the Kingston Public Library Local History Room were analyzed with the following objectives:

- 1) identify the sites present in the collection
- 2) identify the types of artifacts
- 3) identify the temporal associations
- 4) identify the materials
- 5) identify any significant trends in the collection indicating collector bias or real archaeological trend
- 6) place the collection within a larger framework of the town archaeological record and New England prehistory

Artifacts from many time periods of Pre-Contact history are present including one possible channel flake from a Paleo point made from chalcedony. If this is in fact what this artifact is, it would be the only evidence from this period that has been found in Kingston. The majority of the artifacts recovered appear to date from the Late and Transitional Archaic periods (6000-2700 BP) and the Late Woodland (1200-400 BP). Two burials were excavated by the Crams, one of which contained a complete clay pot filled with shells. This pot is likely still in the collection. Many of the pottery fragments present appear to be from one grit-tempered pottery vessel with decorative styles commonly used in the Middle Woodland period.

A greater occurrence of Late Archaic and Late Woodland period and seventeenth century sites were identified in the library collections than the MHC site files and no Contact Period components were conclusively identified in the Cram collection. This last observation is not surprising due to the elusive quality of Contact period sites and the fact that the only way to identify a Contact Period site versus a Late Woodland one, is the presence of European derived artifacts from the former and a lack of such from the later.

Other artifacts recovered by the Crams included bifaces, unifaces, drills, many steatite pot fragments, a hoe, abraders, axe heads, adzes, plummets and net sinkers and two pestles. The wide variety of tools is indicative of a large settlement where a variety of activities including wood working, shellfish processing, tool manufacture and processing of plant material. It is likely that the sites excavated by Cram were seasonally occupied settlements, likely fall to spring base camps, occupied by an appreciable number of people.

The types of raw materials that were used for the tools present in the collection indicate a reliance on

local rhyolites, quartzes and quartzites with some exotic materials such as hornfels, Saugus and Pennsylvania jasper, steatite and chert being traded and used for tools during some time periods but not in others. This may be a reflection of changing interaction, trade and possibly conflict patterns that occurred throughout the Pre-Contact periods.

Another important component of the Cram collection is the large faunal assemblage that is present. The remains of many species, including three domestic ones, indicates that a wide range of mammal, bird and reptile species were hunted and collected by the inhabitants of these sites. Especially common were the remains of the common white-tailed deer. The variety and occurrence of the various elements from the deer skeleton indicates that complete carcasses were returned to the sites to be further processed. Both adult and immature individuals were present in the assemblage. This shows that there was a large and viable deer population that the Native inhabitants were exploiting.

The Allerton collection represents an assemblage of some of the most important artifacts that were recovered during the 1972 excavation of the Allerton site. This site offered some of the first clear evidence of post-in-ground (earthfast) construction in New England and thus is an important site. The artifacts recovered compare well with those that are with the remainder of the collection, currently curated at Plimoth Plantation. It would be a good idea to someday combine the collections and house them in Kingston when the town gets a state approved curation facility. In this way the entire assemblage would be in one location and would be more accessible for researchers.

Like the collection from the Mattapoisett Historical Society, the Kingston Public Library Local History Room Cram Collection is a good example of what can be learned from old collections. What we have been able to do with this collection is to put forth a series of observations concerning collections from Kingston that can be compared with other archaeologically or collector derived collections to see if they form a pattern. Is there an unknown seventeenth century site along the shores of Smelt Pond? Is there really a similarity between Late Archaic and Late Woodland populations, or is this just a result of chance?

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Appendix A Cram Collection

Location, Quantity Material Identification Description
Toaster Box, Bones from in and around fire pits

Location	Quantity	Material	Identification	Description
Toaster Box	10	Bone	Deer	Carpals
Toaster Box	4	Bone	Deer	Calcaneum Right
Toaster Box	3	Bone	Deer	Tarsals Right
Toaster Box	18	Bone	Deer	Cranial Fragments
Toaster Box	2	Bone	Deer	Distal Articulating surfaces
Toaster Box	16	Bone	Deer	Mandible fragments
Toaster Box	2	Bone	Deer	Right Mandible fragments
Toaster Box	2	Bone	Deer	Left Mandible Fragments
Toaster Box	4	Bone	Deer	Left Calcaneum
Toaster Box	3	Bone	Deer	Metacarpal right proximal end
Toaster Box	2	Bone	Deer	Metacarpal Left Proximal end
Toaster Box	1	Bone	Deer	Unfused distal metapodium
Toaster Box	4	Bone	Deer	Metatarsal right proximal end
Toaster Box	2	Bone	Deer	Fragments
Toaster Box	53	Bone	Deer	Rib fragments midsection
Toaster Box	2	Bone	Deer	Rib fragments proximal left end, 1 burned
Toaster Box	50	Bone	Deer	Metatarsal Midsection Fragments
Toaster Box	28	Bone	Deer	Metacarpal Midsection Fragments
Toaster Box	4	Bone	Deer	Metapodium fused distal articulating surfaces
Toaster Box	4	Bone	Deer	Metapodium unfused distal articulating surfaces
Toaster Box	1	Bone	Deer	Metapodium burned distal end
Toaster Box	1	Bone	Deer	Maxillary M1
Toaster Box	1	Bone	Deer	Mandibular M3 right slight wear
Toaster Box	1	Bone	Deer	Mandibular Dpm4 left worn
Toaster Box	1	Bone	Deer	Molar fragment
Toaster Box	9	Bone	Deer	Phalange 3 complete
Toaster Box	2	Bone	Deer	Phalange 3 fragments
Toaster Box	10	Bone	Deer	Phalange 2 complete
Toaster Box	4	Bone	Deer	Phalange 2 fragments
Toaster Box	3	Bone	Deer	Phalange 2 distal and midsection fragments
Toaster Box	1	Bone	Deer	Phalange 2 proximal fragment
Toaster Box	6	Bone	Deer	Phalange 3 distal fragments
Toaster Box	9	Bone	Deer	Phalange 3 proximal fragments
Toaster Box	1	Bone	Deer	Phalange Fragments
Toaster Box	1	Bone	Deer	Carpal

	1	Bone	Deer	Vestigial Phalange
	22	Bone	Deer	Tibia Midsection
	3	Bone	Deer	Tibia right proximal ends, fused
	2	Bone	Deer	Tibia Left midsection
	1	Bone	Deer	Tibia right distal end unfused
	1	Bone	Deer	Tibia Right Midsection
	1	Bone	Deer	Tibia Left proximal end fused
	1 [2 frags]	Bone	Deer	Tibia left distal end fused
	1	Bone	Deer	Tibia right distal end fused
	4	Bone	Deer	Scapula right proximal end
	3	Bone	Deer	Scapula right midsection frags
	1	Bone	Deer	Scapula left Proximal end
	3	Bone	Deer	Scapula left midsection
	4	Bone	Deer	Scapula frags
	1	Bone	Deer	Pelvis left acetabulum
	1	Bone	Deer	pelvis right acetabulum
	3	Bone	Deer	pelvis young, ilium frags 1 left 1 right
	3	Bone	Deer	Sesamoids
	27	Bone	Deer	Humerus midsection frags
	5	Bone	Deer	Humerus left midsections
	4	Bone	Deer	Humerus right midsections
	3	Bone	Deer	Humerus distal ends fused
	14	Bone	Deer	Radius midsection frags
	1	Bone	Deer	Radius right distal ends, 1 unfused, 2 fused
	1	Bone	Deer	radius right proximal end
	1	Bone	Deer	radius left proximal end
	2	Bone	Deer	Radius left distal end fused
	2	Bone	Deer	Radius left midsection frags
	3	Bone	Deer	Axis vertebra frags 1 vertebra
	12	Bone	Deer	cervical vertebrae frags 2 vertebrae
	2	Bone	Deer	Thoracic vertebrae frags 1 vertebra
	8	Bone	Deer	Lumbar Vertebra Fragments 1 vertebra
	2	Bone	Deer	Caudal Vertebra fragments 2 vertebrae
	1	Bone	Deer	Patella left
	50	Bone	Deer	Femur midsection frags
	2	Bone	Deer	Femur left midsection frags
	1	Bone	Deer	Femur left distal fragment fused
	1	Bone	Deer	Femur right midsection fragment
	1 [2	Bone	Deer	Femur Right distal fragment fused

	frags]			
	1 [2 frags]	Bone	Deer	femur right proximal end fragment fused
	1	Bone	Deer	Femur right midsection fragment
	1	Bone	Deer	Femur left Midsection fragment
	1	Bone	Deer	Femur right midsection fragment, large
	1	Bone	Deer	femur right midsection fragment
	1	Bone	Deer	Femur midsection fragment
	1	Bone	Deer	Tibia left proximal end, burned fused
	9	Bone	Deer	Tibia left midsection fragments
	1	Bone	Deer	Tibia left proximal end fused
	1	Bone	Deer	Tibia midsection fragment, burned
	1	Bone	Deer	Tibia right distal end fused chopped
	1	Bone	Deer	Tibia right proximal end fused
	3	Bone	Deer	Tibia right midsection fragments
	1	Bone	Deer	Tibia right distal end unfused
	1	Bone	Deer	Astragalous left fused
	1	Bone	Deer	Astragalous left fused
	1	Bone	Deer	Astragalous right fused, burned black
	4	Bone	Deer	Tarsal left complete
	1	Bone	Deer	Tarsal right complete
	2	Bone	Deer	Calcaneum Right distal end fused
	1	Bone	Deer	calcaneum right complete unfused
	1	Bone	Deer	Calcaneum left proximal end
	4	Bone	Deer	Carpals
	2	Bone	Deer	Sesamoids
	3	Bone	Deer	Vestigial Phalange 1
	3	Bone	Deer	Metapodium right distal end, 2 fused, 1 unfused
	14	Bone	Deer	Metatarsal fragments
	2	Bone	Deer	Metatarsal fragments burned black
	5	Bone	Deer	Metatarsal fragments proximal end burned grey
	2	Bone	Deer	Metatarsal fragments distal end fused
	1	Bone	Deer	Metacarpal left proximal end
	1	Bone	Deer	Metacarpal midsection frags
	1 [2 frags]	Bone	Deer	Metatarsal left proximal end
	1	Bone	Deer	Radius left proximal
	1	Bone	Deer	Radius right proximal burned black/ brown
	1	Bone	Deer	Phalange 1 distal end, fused
	1	Bone	Deer	Phalange 1 proximal end, fused

	1	Bone	Deer	Phalange 1 proximal and distal end, fused
	1	Bone	Deer	Phalange 1 proximal and distal end, fused
	2	Bone	Deer	Phalange 1 distal end, fused
	1 [2 frags]	Bone	Deer	Ulna left proximal unfused
	1	Bone	Deer	Radius midsection
	1	Bone	Deer	Radius left proximal end
	1	Bone	Deer	Radius left distal unfused
	2	Bone	Deer	Radius right distal fused
	2	Bone	Deer	Molar fragments
	3	Bone	Deer	Mandible right distal articulating surface
	1	Bone	Deer	Mandible right fragment
	4	Bone	Deer	Mandible fragments
	11	Bone	Deer	Antler Fragments
	6	Bone	Deer	Cranial Fragments
	1	Bone	Deer	Cranial distal articulating surface
	6	Bone	Deer	Pelvis midsection fragment
	4	Bone	Deer	Pelvis right acetabulum fragments
	2	Bone	Deer	Pelvis right pubis fragments
	2	Bone	Deer	Pelvis right ilium fragments
	1	Bone	Deer	Pelvis left acetabulum fragment
	1	Bone	Deer	Pelvis left pubis fragment
	4	Bone	Deer	Pelvis left ilium fragments
	18	Bone	Deer	Femur midsection fragment
	4	Bone	Deer	Femur right distal end, fused
	1	Bone	Deer	Femur right proximal, unfused
	2	Bone	Deer	Femur right midsection fragment
	4	Bone	Deer	Femur left distal end, fused
	1	Bone	Deer	Femur left midsection fragment
	1	Bone	Deer	Femur left proximal end fragment
	14	Bone	Deer	Tibia midsection fragments
	1 [2 frags]	Bone	Deer	Tibia left distal end, fused
	1	Bone	Deer	Tibia left proximal end, fused
	1	Bone	Deer	Tibia left midsection fragment
	1	Bone	Deer	Tibia right midsection fragment
	17	Bone	Deer	Humerus midsection fragments
	1	Bone	Deer	Humerus left distal end, fused
	1	Bone	Deer	Humerus left distal end, fused
	6	Bone	Deer	Humerus left distal end fragments

	3	Bone	Deer	Phalange fragments
	8	Bone	Deer	Phalange 1, distal end fused
	5	Bone	Deer	Phalange 1 proximal end fragments
	1	Bone	Deer	Phalange 1 complete, distal end fused
	4	Bone	Deer	Phalange 2 proximal fragment
	8	Bone	Deer	Phalange 2 distal end, fused
	1	Bone	Deer	Phalange 2 complete, distal end fused
	1	Bone	Deer	Phalange 3, complete
	1	Bone	Deer	Ulna right proximal end, fused
	1	Bone	Deer	Radius left proximal end
	1	Bone	Deer	Radius left midsection fragment
	1	Bone	Deer	Radius right midsection fragment
	1	Bone	Deer	radius midsection fragments, burned black
	1	Bone	Deer	Cranial, right occipital bone to foramen
	3	Bone	Deer	Vertebra epiphysis, unfused
	1	Bone	Deer	Caudal vertebra
	1	Bone	Deer	Cervical Vertebra Fragments
	1	Bone	Deer	Thorasic vertebra fragment
	1	Bone	Deer	Thorasic vertebra fragment, body, burned grey
	1	Bone	Deer	Lumbar vertebra fragment, dorsal
	2	Bone	Deer	Radius midsection fragments
	1	Bone	Deer	Radius right distal fragment, fused
	2	Bone	Deer	Lumbar vertebra fragment, distal end
	20	Bone	Deer	Rib fragments
	3	Bone	Deer	Rib fragments, 1 right proximal end
	3	Bone	Deer	Rib fragments, 2 left proximal ends, fused epiphysis
	11	Bone	Deer	Cervical Vertebra Fragments
	11	Bone	Deer	Unfused Cervical Vertebral epiphysis
	9	Bone	Deer	Thorasic Vertebra Fragments
	2	Bone	Deer	Unfused Thorasic Vertebral epiphysis
	4	Bone	Deer	Lumbar Vertebra Fragments
	7	Bone	Deer	Fused Articulates
	9	Bone	Deer	Unfused Articulates
	4	Bone	Deer	Unfused Sacral Vertebra
	3	Bone	Deer	Unfused caudal vertebra
	1	Bone	Deer	Phalange 2 distal end
	2 (6frags)	Bone	Deer	Atlas Vertebra fused
	1	Bone	Deer	Mandibular Pm2 left
	1	Bone	Deer	Maxillary Pm1 left

	1	Bone	Deer	Maxillary Pm1 left
	1	Bone	Deer	Maxillary Pm2 left
	1	Bone	Deer	Maxillary Pm2 left
	1	Bone	Deer	Maxillary Dpm3 left
	1	Bone	Deer	Maxillary M1 left
	1	Bone	Deer	Maxillary M2 left
	1	Bone	Deer	Maxillary M3 left
	1	Bone	Deer	Maxillary Pm2 right
	1	Bone	Deer	Maxillary Pm3 right
	1	Bone	Deer	Maxillary M1 right
	1	Bone	Deer	Maxillary M1 right
	1	Bone	Deer	Maxillary M1 right
	1	Bone	Deer	Maxillary M1 right
	1	Bone	Deer	Maxillary M2 right
	1	Bone	Deer	Maxillary M3 right
	1	Bone	Deer	Maxillary M3 right
	1	Bone	Deer	Maxillary M3 right
	1	Bone	Deer	Maxilla fragment right
	1	Bone	Deer	Premolar fragment
	1	Bone	Deer	Mandibular M1 left
	1			Mandibular M2 left
	1	Bone	Deer	Mandibular I1 right
	1	Bone	Deer	Mandibular Pm3 right
	1			Mandibular M1 right
	1			Mandibular M2 right
	1			Mandibular M3 right slight wear
	1	Bone	Deer	Mandibular M2 right
	1			Mandibular M3 right
	1	Bone	Deer	Mandibular Pm3 right
	1			Mandibular M1 right
	1	Bone	Deer	Mandibular Pm2 right
	1	Bone	Deer	Mandibular M2 right
	1	Bone	Deer	Mandibular M2 right
	1	Bone	Deer	Mandibular M3 right
	1	Bone	Deer	Mandibular dpm4 right
	1	Bone	Deer	Mandibular dpm4 right
	1	Bone	Deer	Mandibular dpm3 right
	1	Bone	Deer	Mandibular M2 left

	1			Mandibular M1left
	1	Bone	Deer	Mandibular M3 left
	1	Bone	Deer	Mandibular Pm1 left
	1			Mandibular Pm2 left
	1			Mandibular Pm3 Left
	1			Mandibular M1 left
	1	Bone	Deer	Mandibular Pm3 left
	1	Bone	Deer	Mandibular Pm3 left
	1	Bone	Deer	Mandibular Pm3 left
	1	Bone	Deer	Mandibular Pm3 left
	1	Bone	Deer	Mandibular M1 left
	1	Bone	Deer	Mandibular M1 left
	1	Bone	Deer	Mandibular M2 left
	1	Bone	Deer	Mandibular M2 left
	1	Bone	Deer	Mandibular M2 left
	1	Bone	Deer	Mandibular M2 left
	1	Bone	Deer	Mandibular M2 left
	1	Bone	Deer	Mandibular M2 left
	1	Bone	Deer	Mandibular M3 left
	1	Bone	Deer	Mandibular M3 left
	1	Bone	Deer	Mandibular M3 left
	1	Bone	Deer	Mandibular M3 left
	1	Bone	Deer	Mandibular dpm4 left
	1	Bone	Deer	Humerus midsection fragments
	3	Bone	Deer	ossicles
	1	Bone	Deer	Carpal
	3	Bone	Deer	Astragalous right
	4	Bone	Deer	Astragalous left
	1	Bone	Deer	Calcaneum left proximal and midsection
	2	Bone	Deer	Calcaneum left distal end, unfused
	2	Bone	Deer	Calcaneum left fragments
	1	Bone	Deer	Calcaneum right proximal end
	1	Bone	Deer	Calcaneum right distal end, fused
	1	Bone	Deer	Calcaneum right distal end, unfused
	41	Bone	Deer	Rib midsection fragments
	8	Bone	Deer	Rib left proximal ends
	6	Bone	Deer	Ribs right proximal ends
	3	Bone	Deer	Ribs unfused epiphysis
	1	Bone	Deer	Ulna left, distal end unfused
	1	Bone	Deer	Patella left

	1	Bone	Deer	Hyoid midsection
	1	Bone	Deer	Scapula left proximal end
	2	Bone	Deer	Scapula left blade fragments
	1	Bone	Ovis	Femur right midsection fragment, small, cut
	5	Bone	medium Bird	Longbone fragments
	2	Bone	Small mammal	Longbone fragments
	6	Bone	Large bird	Longbone fragments
	1	Bone	Turkey	Sternum fragment
	1	Bone	Turkey	Humerus left midsection fragment
	1	Bone	Turkey	Scapula midsection fragment
	1	Bone	Turkey	coracoid, left
	1	Bone	Duck	humerus left
	1	Bone	Beaver	Humerus right proximal and midsection fragment, chopped
	1	Bone	Beaver	Thoracic vertebra fragment unfused epiphysis
	1	Bone	Beaver	Caudal vertebra unfused epiphysis
	1	Bone	Beaver	Humerus left distal end, fused broken 1/4 up shaft
	1	Bone	Beaver	Caudal vertebra
	1	Bone	Beaver	Ulna right proximal end, chopped
	1	Bone	Beaver	Humerus fragment
	6	Bone	Beaver	Mandibular molar
	1	Bone	Beaver	Mandible fragment
	2	Bone	racoon	Cranial fragments, right side
	1	Bone	Raccoon	Ulna left proximal end
	1	Bone	Raccoon	Humerus right distal and midsection
	1 [2 frags]	Bone	Raccoon	Ulna left proximal and midsection burned
	1	Bone	Raccoon	Mandible left distal end
	1	Bone	Raccoon	Mandible distal and midsection right
	1	Bone	Raccoon	Mandibular M3 left
	1	Bone	Raccoon	Mandibular M3 left
	1	Bone	Raccoon	Mandibular Pm3 right
	1	Bone	Raccoon	Mandibular C1 left
	1	Bone	Raccoon	Maxillary M3 right
	1	Bone	Raccoon	Humerus left distal end, fused broken 1/4 up shaft
	1	Bone	Raccoon	Radius left proximal and midsection fused, broken 3/4 way down shaft
	1	Bone	Raccoon	Ulna left proximal and midsection fused, broken 3/4 way down shaft
	1	Bone	Raccoon	Femur right proximal and midsection, fused, broken 1/4 way down shaft

	1	Bone	Raccoon	Tibia left proximal and midsection, fused end, broken 1/4 way down shaft
	1	Bone	Raccoon	Calcaneum right, complete, fused epiphysis
	1	Bone	Painted Turtle	Plastron fragment
	6	Bone	Painted Turtle	Carapace fragments
	1	Bone	Box turtle	Carapace fragment
	1	Bone	Fox	Mandible left fragment
	1	Bone	Muskrat	Maxilla right
	1	Bone	Muskrat	Mandible right fragment
	1	Bone	Muskrat	Mandibular I1 right
	1	Bone	Dog	metatarsal IV proximal end
	135	Bone	Medium Mammal	Longbone fragments
	46	Bone	Medium Mammal	Flatbone fragments
	6	Bone	Medium Mammal	Longbone fragments, burned
	2	Bone	Medium Mammal	Flatbone fragments
	24	Bone	mammal	Medium Mammal longbone fragments
	44	Bone	Mammal	Medium Mammal flatbone fragments
	4	Bone	mammal	Medium Mammal longbone fragments, burned black
	4	Bone	Mammal	Medium Mammal flatbone burned black
	185	Bone	Medium Mammal	Longbone fragments
	226	Bone	Medium Mammal	Flatbone fragments
	12	Bone	Medium bird	Longbone fragments
	8	Bone	Medium Mammal	Burned longbone fragments
	1	Bone	Cattle	Maxillary M1 left
	1	Bone	Cattle	Maxillary I1 left
	1	Bone	Pig	Ulna right proximal and midsection
	1	Bone	Sheep	Mandible left fragment
	1	Bone	Seal	Atlas vertebra
	1 [2 frags]	Bone	Seal	Maxilla left proximal fragment
	1	Bone	Bear	Metacarpal 1, proximal and midsection
	1	Shell	Quahog	Hinge
	1	Shell	Quahog	Shell fragment
	3	Shell	Soft Shell clam	shell fragments, 2 chondrophores
	1	Shell	Oyster	Shell fragment
	14	Shell	Soft-Shell Clam fragments	2 burned, 1 umbo
	3	Shell	Horse mussel fragments	
Box 6				

	1	Bone	Deer	Metatarsal awl 9.4 cm long
	1	Bone	Deer	Femur awl 5.5 cm long, broken distally
	1	Bone	Deer	Metatarsal awl 8.5 cm long
	1	Bone	Deer	Antler tip, 3.5 cm long
	1	Bone	Bird	Longbone fragment
	1	Bone	Deer	Longbone pendent with small cuts on edges
	52	Bone	Deer	Tooth/ jaw fragments
	5	Bone	Deer	Phalange 1 fragments
	1	Bone	Deer	Phalange 1 fragment burned
	1	Bone	Deer	Phalange 2 fragment
	7	Bone	Deer	Phalange 3, complete
	5	Bone	Deer	Mandible fragments
	4	Bone	Deer	Sesamoids
	2	Bone	Deer	Astragalous fragments
	1	Bone	Deer	Astragalous fragment burned
	1	Bone	Deer	Calcaneum unfused distal
	1	Bone	Deer	Calcaneum fragment
	1	Bone	Deer	Calcaneum fragment fused distal end, chopped
	1	Bone	Deer	Calcaneum fragment chopped
	1	Bone	Deer	Metacarpal distal end chopped
	1	Bone	Deer	Metacarpal distal end chopped
	1	Bone	Deer	Metacarpal midsection fragment
	1	Bone	Deer	Metatarsal distal end fused
	1	Bone	Deer	Metatarsal distal end fused
	18	Bone	Deer	Metatarsal midsection fragments
	1	Bone	Deer	Atlas vertebra, cut, small individual
	2	Bone	Deer	Metapodium midsection fragments
	3	Bone	Mammal	Worn fragments
	2	Bone	Deer	cervical vertebra fragments
	1	Bone	Deer	Thorasic vertebra fragment
	25	Bone	Deer	Rib fragments
	87	Bone	Deer	Rib fragments
	1	Bone	Deer	Scapula midsection fragment
	5	Bone	Deer	Tarsals
	3	Bone	Deer	Carpals
	3	Bone	Deer	Humerus midsection fragments
	1	Bone	Deer	Humerus midsection fragment burned
	1	Bone	Deer	Humerus midsection fragment large
	1	Bone	Deer	Humerus distal fragment

	3	Bone	Deer	radius midsection fragments
	2	Bone	Deer	Radius distal end fragments
	1	Bone	Deer	Ulna midsection fragment
	1	Bone	Deer	Ulna midsection fragment large
	5	Bone	Deer	Femur midsection fragments
	2	Bone	Deer	Femur proximal end fragment
	1	Bone	Deer	Femur midsection fragment, small deer
	3	Bone	Deer	Tibia midsection fragments
	4	Bone	Deer	Tibia distal end fragments, fused
	1	Bone	Deer	Tibia proximal end fragment chopped
	1	Bone	Deer	Tibia distal end fragment chopped
	1	Bone	Deer	pedicle, very large shed, 4.2 cm in diameter
	1	Bone	Deer	Maxilla fragment
	1	Bone	Deer	Antler pedicles 2 cm in diameter
	14	Bone	Deer	Large antler fragments
	1	Bone	Deer	Ossicle
	4	Bone	Deer	cranial fragments
	1	Bone	Deer	Cranial fragment with just shed pedicle, 4.3 cm diameter
	3	Bone	Deer	Large antler tine with tip cut off
	2	Bone	Deer	Antler tine with tip cut off
	1	Bone	Deer	Antler tine midsection
	3	Bone	Deer	Antler tips
	1	Bone	Deer	Possible antler tine, human phalange?
	1	Bone	Deer	Large femur fragment, flattened and smoothed, possible tool
	1	Bone	Deer	Smoothed longbone fragment
	1	Bone	Turtle	Plymouth Red Bellied turtle plastron fragment
	1	Bone	Deer	Ossicle
	1	Bone	Bos	Incisor
	1	Bone	Bos	Mandibular M2
	3	Bone	Turtle	painted turtle carapace fragments
	1	Bone	Turtle	Painted turtle plastron fragment
	1	Bone	Woodchuck	Maxilla fragment
	1	Bone	Woodchuck	Mandible fragment
	6	Bone	Beaver	Molars
	1	Bone	Beaver	Incisor
	1	Bone	Beaver	Caudal vertebra
	1	Bone	Beaver	radius left midsection fragment
	1	Wood	Wood	Wood fragment, natural

	1	Pottery	Gravel tempered	Gravel tempered pottery fragment
	1	Rock	Rock	Natural
	1	Bone	Beaver	Metacarpal midsection fragment burned black
	1	Bone	Beaver	Left femur proximal end fragment
	1	Bone	Beaver	Left humerus distal fragment fused
	1	Bone	Raccoon	Ulna midsection fragment
	1	Bone	Raccoon	Humerus distal fragment
	1	Bone	Raccoon	Calcaneum
	1	Bone	Raccoon	canine
	1	Bone	Raccoon	left mandible fragment
	1	Bone	Raccoon	Right mandible fragment
	1	Bone	rabbit	Incisor
	1	Bone	Raccoon	Tibia midsection fragment
	1	Bone	Turkey	Ulna midsection fragment
	1	Bone	Bird	Large bird ulna midsection fragment
	1	Bone	Turkey	Ossified tendon fragment
	8	Bone	Bird	Large bird longbone fragments
Box 7	14	Rock	Graphite	graphite pebbles
	2	Rock	Coal	Coal fragments
	3	Metal	Iron	Iron slag fragments
	1	Flora	Nut	Recent hickory nut hull
	1	Pottery	Redware	Redware fragment glaze missing
	1	Metal	Nail	Hand-wrought nail
	3	Metal	Nail	Possible hand-wrought nail fragments
	3	Metal	Copper	Nails 2.7 cm long, all heads bent over
	6	Flora	Charcoal	Charcoal fragments
	2	Rock	Quartz	Crystals
	1	Lithic	Quartz	small oval biface
	1	Lithic	Quartz	Crystal triangular scraper from one flake with a retouched edge
	3	Lithic	Quartzite	Oval stone beads drilled with a stone drill 2.6cm long, .6cm diameter hole, 2.9 cm long 1cm diameter hole
	1	Lithic	Chert	grey chert triangular biface
	1	Lithic	Rhyolite	Very dark grey rhyolite triangular biface
	1	Lithic	Rhyolite	Maroon/ purple Jack's Reef point
	8	Lithic	Quartz	White to white/ clear quartz small stemmed points
	24	Lithic	Quartz	White quartz cd
	3	Lithic	Rhyolite	Light grey rhyolite cd
	1	Lithic	Rhyolite	Tan rhyolite cd

	1	Lithic	Rhyolite	Very dark grey rhyolite cd
	1	Lithic	Slate	Grey slate cd
	1	Pottery	Redware	black interior glaze
	2	Lithic	Quartz	white quartz cd
	2	Lithic	Rhyolite	Dark grey rhyolite cd
	1	Lithic	rhyolite	Grey/ pink rhyolite cd
	1	Lithic	Rhyolite	dark purple, fine grained rhyolite cd
	1	Lithic	Quartzite	tan quartzite cd
	1	Lithic	Quartzite	grey quartzite cd
	1	Lithic	Rhyolite	light purple rhyolite cd
	1	Lithic	Rhyolite	Dark purple rhyolite cd
	8	Lithic	Rhyolite	Very dark grey rhyolite cd
	1	Lithic	Quartz	White quartz chipping debriswith cortex
	1	Lithic	Rhyolite	Purple rhyolite chipping debriswith cortex
	8	Lithic	Rhyolite	Green grey rhyolite cd
	1	Lithic	Pennsylvania Jasper	tan cd
	1	Lithic	Rhyolite	Maroon rhyolite cd
	1	Lithic	Rhyolite	Orange red rhyolite cd
	1	Pottery	Redware	18th century redware with dark brown interior glaze
	1	Lithic	Quartz	Shatter with cortex
	1	Lithic	Redware	Grey rhyolite shatter, long
	1	Lithic	Quartzite	Mottled purple grey chipping debriswith cortex
	1	Lithic	Quartzite	Green grey quartzite chipping debriswithy cortex
	2	Lithic	Rhyolite	Purple grey rhyolite cd
	2	Lithic	Rhyolite	maroon/ purple rhyolite cd
	14	Lithic	Rhyolite	Dark grey rhyolite cd
	2	Lithic	Saugus Jasper	cd
	1	Lithic	Rhyolite	Light purple rhyolite biface
	1	Lithic	Rhyolite	Light purple rhyolite cd
	1	Lithic	Rhyolite	Light purple/ pink rhyolite cd
	1	Lithic	Quartzite	Grey quartzite cd
	1	Lithic	Rhyolite	Maroon rhyolite cd
	5	Lithic	Rhyolite	Grey rhyolite cd
	1	Lithic	Rhyolite	Grey rhyolite chipping debriswith cortex
	1	Lithic	Rhyolite	Grey purple rhyolite cd
	1	Lithic	Rhyolite	Grey rhyolite cd
	1	Lithic	Rhyolite	Purple rhyolite chipping debris
	1	Lithic	Sandstone	Grey green sandstone fragment
	1	Lithic	Granite	cd

	1	Lithic	Rhyolite	Grey and dark grey rhyolite cd
	1	Lithic	rhyolite	Dark purple rhyolite cd
	1	Lithic	Rhyolite	Purple grey Rhyolite Levanna fragment
	1	Lithic	Rhyolite	Grey green rhyolite chipping debriswith cortex
Box 8				
	12	Lithic	Quartz	Squibnocket Triangle points
	1	Lithic	Rhyolite	tan elongated rhyolite Squibnocket triangle 3.2 x 2.1 cm .3 cm deep basal concavity
	1	Lithic	Rhyolite	Dark grey rhyolite elongated Squibnocket Triangle 1.9x 3.2 cm .4 cm deep basal concavity
	1	Lithic	Chert	Black chert possible brewerton eared point
	1	Lithic	Rhyolite	dark grey rhyolite triangular biface
	12	Lithic	Rhyolite	Dark grey rhyolite Levanna points
	2	Lithic	Rhyolite	Grey rhyolite levanna Point
	3	Lithic	Rhyolite	Red/ maroon rhyolite Levanna Point
	18	Lithic	Quartz	Quartz Levanna points
	3	Lithic	Rhyolite	dark purple grey rhyolite levanna Points
	1	Lithic	Rhyolite	Dark grey green rhyolite Levanna Points
	5	Lithic	Hornfels	Hornfels Levanna Points
	1	Lithic	Quartzite	Tan quartzite Levanna Point
	1	Lithic	Quartzite	Grey green quartzite Levanna Points
	1	Lithic	Rhyolite	Green rhyolite Levanna Point
	1	Lithic	Quartzite	Tan/ purple fine grained Quartzite Levanna Point
	1	Lithic	Rhyolite	Dark purple rhyolite Levanna point
	1	Lithic	Rhyolite	Dark purple rhyolite elongated Squibnocket Triangle 3.2 x 2.2 cm .3cm deep basal notch
	2	Lithic	Rhyolite	Dark grey rhyolite Jack's Reef Point
	1	Lithic	Rhyolite	Grey rhyolite Orient Fishtail point
	2	Lithic	Rhyolite	Grey purple rhyolite Brewerton eared point
	1	Lithic	Quartzite	Grey quartzite Brewerton eared point
	1	Lithic	Rhyolite	Dark grey rhyolite Brewerton eared point
	1	Lithic	Rhyolite	Grey rhyolite Brewerton eared point
	1	Lithic	Rhyolite	Grey rhyolite cd
	2	Lithic	Rhyolite	Very dark grey rhyolite Levanna Point
	1	Lithic	Quartzite	Purple quartzite triangular biface 3.9 x 3cm, no concavity
	1	Lithic	Rhyolite	Dark purple grey Brewerton eared point
	1	Lithic	Rhyolite	very dark grey rhyolite elongated Levanna, reworked
	1	Lithic	Quartz	Squibnocket Triangle elongated
	2	Lithic	Quartz	Bifaces

	1	Lithic	Quartz	Possible small stemmed point
	1	Lithic	Rhyolite	Grey rhyolite blade, midsection and tip
	1	Lithic	Rhyolite	Light grey rhyolite drill tip
	1	Lithic	Sandstone	Maroon sandstone possible Stark point
	1	Lithic	Rhyolite	dark grey rhyolite biface
	1	Lithic	Rhyolite	Orange pink rhyolite triangular scraper/ reworked point
	1	Lithic	Rhyolite	Dark grey rhyolite oval scraper base
	1	Lithic	Hornfels	hornfels blade biface midsection and tip
	1	Lithic	Rhyolite	Dark grey rhyolite blade midsection and tip
	2	Lithic	Rhyolite	grey rhyolite blade midsection and tip
	5	Lithic	Rhyolite	Very dark grey rhyolite blade midsection and tip
	1	Lithic	Rhyolite	Maroon purple rhyolite blade midsection and tip
	1	Lithic	Rhyolite	Blue grey rhyolite blade midsection and tip with cortex at tip
	1	Lithic	Rhyolite	Dark grey rhyolite triangular biface possible Levanna
	1	Lithic	Rhyolite	Grey green rhyolite blade midsection and tip
	1	Lithic	Chert	Dark grey chert Genesse point
	1	Lithic	Rhyolite	Tan rhyolite Squibnocket Triangle point
	1	Lithic	Rhyolite	Purple rhyolite Atlantic point preform base
	1	Lithic	Rhyolite	Dark grey rhyolite Atlantic point preform base
	1	Lithic	Hornfels	Grey hornfels brewerton corner notched point
	1	Lithic	Rhyolite	Tan grey rhyolite Atlantic base and midsection
	1	Lithic	Quartzite	Purple quartzite possible Adena base
	1	Lithic	Hornfels	Grey hornfels Jack's reef pentagonal point
	1	Lithic	Rhyolite	very dark grey rhyolite square biface fragment
	1	Lithic	Slate	Grey slate teardrop shape biface with rounded base
	1	Lithic	Quartzite	Grey quartzite triangular biface
	1	Lithic	Rhyolite	grey rhyolite rectangular biface
	1	Lithic	Rhyolite	Purple rhyolite T-shaped biface
	1	Lithic	Chert	Grey chert T-shaped biface
	1	Lithic	Rhyolite	Tan rhyolite rounded base and midsection
	1	Lithic	Rhyolite	Grey rhyolite diamond shaped biface with rounded base
	1	Lithic	Rhyolite	Grey rhyolite triangular biface
	1	Lithic	Rhyolite	grey purple rhyolite Stark base
	1	Lithic	Quartz	White quartz T-shaped drill
	1	Lithic	Rhyolite	dark grey rounded biface base
Box 10				
	1	Bone	Tool	Bone harpoon point likely from Alaska

	1	Lithic	Schist	Grey green schist fragment with horizontal lines, rectangular shaped possible whetstone
	1	Lithic	Schist	Tan schist with perforation, possible pendant .6cm perforation made with stone drill
	1	Lithic	Rhyolite	Grey green rhyolite round ended blade 8.8 cm long
	1	Lithic	Rhyolite	Grey green rhyolite square ended blade 8 cm long
	1	Lithic	Rhyolite	Grey and white banded rhyolite square ended blade 9.3 cm long
	1	Lithic	Rhyolite	Dark grey rhyolite Orient fishtail point
	1	Lithic	Rhyolite	Maroon purple rhyolite Orient Fishtail point
	1	Lithic	Rhyolite	Tan rhyolite Orient fishtail point
	1	Lithic	Rhyolite	Grey rhyolite Orient fishtail point
	1	Lithic	Rhyolite	Tan purple rhyolite Orient fishtail point
	1	Lithic	Rhyolite	Maroon rhyolite long-tanged Stark point
	1	Lithic	Rhyolite	Purple rhyolite Stark point
	1	Lithic	Rhyolite	Dark grey purple Stark point
	1	Lithic	Rhyolite	Dark grey purple short Stark point- reworked
	1	Lithic	Rhyolite	dark grey rhyolite Rossville
	1	Lithic	Rhyolite	Grey rhyolite short Stark- reworked
	1	Lithic	Quartzite	Tan quartzite Possible Adena base
	1	Lithic	Rhyolite	Grey rhyolite Adena base
	1	Lithic	Rhyolite	dark grey rhyolite lenticular biface 5.6 cm long
	1	Lithic	Rhyolite	Dark grey rhyolite Lenticular biface rounded base
	1	Lithic	Quartzite	Tan quartzite Stark point
	1	Lithic	Quartzite	Pink purple Quartzite oval biface
	1	Lithic	Rhyolite	Dark maroon rhyolite lenticular biface
	1	Lithic	Rhyolite	Green grey rhyolite lenticular biface
	1	Lithic	Quartz	White quartz lenticular biface
	1	Lithic	Rhyolite	Dark grey rhyolite possible Squibnocket Triangle point
	1	Lithic	Rhyolite	dark purple grey rhyolite long tanged Stark like point
	1	Lithic	Rhyolite	Light grey purple rhyolite blade, square ended Jack's Reef Pentagonal like 6.3 cm long
	1	Lithic	Rhyolite	Dark grey rhyolite blade with squared base
	1	Lithic	Rhyolite	Dark maroon rhyolite triangular biface
	1	Lithic	Rhyolite	Mottled orange/ grey rhyolite triangular biface, large
	1	Lithic	Chert	Grey maroon chert large triangular biface
	1	Lithic	Quartzite	grey maroon quartzite lenticular biface
	1	Lithic	Hornfels	Grey Hornfels adze 7.1 cm long with definite rubbing wear
	1	Lithic	Rhyolite	Very dark grey rhyolite Orient Fishtail point

	5	Lithic	Rhyolite	Dark grey rhyolite Orient Fishtail points
	1	Lithic	Rhyolite	Purple grey rhyolite Susquahannah Broad Point
	1	Lithic	Rhyolite	Purple rhyolite Susquahannah Broad Point
	1	Lithic	Rhyolite	Grey/ green rhyolite Susquahannah Broad Point
	1	Lithic	Argillite	Tan/ grey argillite Neville Point
	1	Lithic	Rhyolite	grey rhyolite Neville Point
	1	Lithic	Rhyolite	Maroon rhyolite Neville Point
	1	Lithic	Rhyolite	Purple pink rhyolite Neville Point
	1	Lithic	Rhyolite	Grey rhyolite Neville point
	1	Lithic	Rhyolite	Grey rhyolite stemmed biface
	1	Lithic	Rhyolite	Very dark grey Stark point
	1	Lithic	Rhyolite	dark grey rhyolite Stark point
	1	Lithic	Slate	Grey slate Atlantic point
	1	Lithic	Rhyolite	dark grey rhyolite Atlantic Point
	1	Lithic	Rhyolite	Banded grey and light grey rhyolite possible Atlantic point, long tang
	1	Lithic	Rhyolite	Tan rhyolite Brewerton corner notched point
	1	Lithic	Quartzite	Grey green quartzite Greene Point
	1	Lithic	Rhyolite	Purple/ dark purple rhyolite Neville Variant point
	1	Lithic	Rhyolite	Maroon Rhyolite Fox Creek Stemmed Point
	1	Lithic	Rhyolite	grey rhyolite Adena like point
	1	Lithic	Rhyolite	Grey rhyolite Susquahannah Broad Point
	1	Lithic	Rhyolite	Grey purple rhyolite Genessee point
	1	Lithic	Chert	Grey chert Atlantic point
	1	Lithic	Rhyolite	tan grey rhyolite Stemmed point
	1	Lithic	Rhyolite	Grey Purple rhyolite stemmed point
	1	Lithic	Rhyolite	Purple banded rhyolite Rossville point
	1	Lithic	Rhyolite	dark purple grey rhyolite Greene Point
	1	Lithic	Rhyolite	Dark purple rhyolite Greene Point
	1	Lithic	Rhyolite	Grey Rhyolite Greene Point
	1	Lithic	Rhyolite	Dark grey rhyolite Greene point
	1	Lithic	Rhyolite	Very dark grey rhyolite Greene point
	1	Lithic	Rhyolite	dark grey rhyolite Small Stemmed point
	1	Lithic	Rhyolite	Dark grey rhyolite blade with squared base
	1	Lithic	Rhyolite	Grey rhyolite Fox Creek stemmed point
	1	Lithic	Rhyolite	Light Grey rhyolite Fox Creek stemmed point
	1	Lithic	Quartzite	Light purple grey quartzite Fox Creek Stemmed point
	1	Lithic	Hornfels	Tan hornfels Fox Creek Stemmed Point
	1	Lithic	Rhyolite	Purple grey rhyolite Fox Creek Stemmed Point
	1	Lithic	Rhyolite	Grey rhyolite Greene Point

Box 5				
113	1	Lithic	Pennsylvania Jasper	Jack's Reef Pentagonal point
	1	Lithic	Rhyolite	Dark purple lenticular biface base and midsection
	1	Lithic	Schist	Grey schist large triangular biface
	1	Lithic	Rhyolite	Purple grey rhyolite triangular biface
	1	Lithic	Rhyolite	very dark grey rhyolite lenticular biface
	1	Lithic	Argillite	Grey green argillite Susquahannah Broad point
	1	Lithic	Quartzite	Dark grey quartzite rounded stem point, short triangular blade, possible reworked Adena?
	1	Lithic	Rhyolite	Light purple grey rhyolite Greene point
	1	Lithic	Rhyolite	dark grey rhyolite lenticular biface
	1	Lithic	Rhyolite	Light purple Greene Point
	1	Lithic	Hornfels	Grey hornfels possible Greene Point, waterworn
100	1	Lithic	Quartz	White quartz large triangular preform
	1	Lithic	Quartz	White quartz oval biface large
	2	Lithic	Quartz	White quartz shatter fragments
	1	Lithic	Quartz	White quartz rough lenticular biface
	2	Lithic	Quartz	White quartz cores
89 to 91	1	Lithic	Chert	Grey chert long drill 8.8 cm long parallel sided
	1	Lithic	Schist	Grey schist rectangular adze with a slight bevel, 10 cm long
60	1	Lithic	Steatite	Large steatite bowl fragment with lug handle 3.2 cm thick, 26 cm interior diameter, 28 cm exterior diameter
61 to 62	1	Lithic	Slate	Grey slate Plummets 6.7 cm long
	1	Lithic	Granite	Grey granite plummets 8 cm long
55	1	Lithic	Steatite	Very porous steatite bowl fragment 1.7 cm thick
	1	Lithic	Steatite	Very porous steatite bowl fragment 2.2 cm thick
	3	Lithic	Steatite	very porous steatite bowl fragments 1.7 cm thick
57	1	Lithic	Steatite	Bowl fragment 30 cm exterior diameter, 28 cm interior diameter
56	1	Lithic	Steatite	large steatite bowl fragment with external scratching, 1.5 to 2 cm thick, flat base
	1	Lithic	Steatite	very porous steatite rim fragment, 2 cm thick on body .9 to 1 cm thick on rim, 22 cm exterior diameter, 20 cm interior diameter
70 to 71	1	Lithic	granite	Large net weight 10 cm long, in production pecked on one side
	1	Lithic	Granite	net weight in production grooved half way around 8.6 cm long
99	1	Lithic	Granite	Purple granite possible hammerstone, chipped
67	1	Lithic	Granite	Tan granite hammerstone

65	1	Lithic	Green stone	Green stone axe head, full grooved 9.4 x 5.2 cm
64	1	Lithic	Slate	Grey tan slate axe head in production, 11.3 cm long, lots of vertical lines from grinding
63	1	Lithic	Cement	Possible poured cement fragment
67	1	Lithic	Quartzite	Grey green quartzite possible hammerstone with striations, may be natural
68	1	Lithic	Granite	tan granite
163	7	Pottery	Gravel Tempered	Gravel tempered Pottery fragments
	3	Pottery	Shell-tempered	Shell tempered pottery rim fragments, most of the temper eroded out, diagonal lines on top of rim
	7	Pottery	Shell-tempered	Shell tempered pottery rim fragments, most of the temper eroded out, diagonal lines on top of rim wide incised band on exterior
	3	Pottery	Shell tempered	Shell tempered pottery fragments with cord-marked paddle marks on exterior, scallop shell marks on exterior, 2 rows horizontal, wiped interior
	4	Pottery	Shell tempered	Shell tempered pottery fragments with three rows of punctate design running vertically on exterior
	1	Pottery	Gravel tempered	Gravel Tempered pottery fragment with cord wrapped paddle marks on exterior
	2	Pottery	Shell tempered	Shell tempered pottery fragments with cog marks/ dentate stamp on exterior
199	1	Pottery	Shell tempered	Shell tempered pottery fragment, shell eroded out .7 cm thick square rim diagonal lines on top of rim
	1	Pottery	Shell tempered	Heavy shell tempered pottery vessel wiped interior cord wrapped paddle exterior
	1	Pottery	Shell tempered	Shell tempered pottery fragment dentate design on exterior goes with square rim above
	1	Bone	Deer	Ulna midsection fragment
	1	Bone	Medium Mammal	Longbone fragment
	72			
Box 11	1	Lithic	Granite	Large anvil stone with pitting on top and bottom 21 cm long
Box 4				
83	1	Flora	Wood	Recent chewed beaver wood
82	1	Bone	Walrus	Large possible walrus tooth, recent
84	2	Metal	Iron	Oxen shoes
110	1	Lithic	Rhyolite	Maroon rhyolite cobble core
	1	Lithic	Rhyolite	Purple pink Rhyolite core or hammerstone
	1	Rock	Schist	Red schist natural
	1	Flora	Wood	Twig
	1	Metal	Iron	Rust fragment
	1	Rock	Rock	Black rock

	1	Rock	Schist	Red natural schist fragment
	1	Metal	Iron	Flat iron fragments
	1	Lithic	Pennsylvania Jasper	Point tip fragment
	2	Rock	Rock	Red pebble, natural
	1	Lithic	Flint	Grey flint fragment
	1	Glass	Glass	Melted glass fragment
	1	Pottery	Sewer Pipe	Grey sewer pipe fragment
	1	Lithic	Quartz	Smokey quartz cd
	2	Rock	Schist	Schist fragments
	1	Lithic	Obsidion	Obsidion point, not local
	1	Rock	Pyrite	Fools gold fragment
92	1	Lithic	Quartzite	grey green quartzite adze fragment, rectangular in cross section
79	1	Lithic	Granite	Small full grooved granite axe 8 x 7.3 cm
	1	Lithic	Granite	Tan granite hammerstone
	1	Lithic	Rhyolite	Purple rhyolite Hammerstone
94	1	Lithic	Talc	oval talc fragment with hole drilled in middle, local?
95	1	Rock	Quartzite	L-shaped quartzite cobble, natural
97	1	Lithic	Chert	Rectangular blade, not local
98	1	Lithic	Slate	Grey slate abrading stone, notched on edge
96	1	Lithic	slate	Grey slate rod 11.6 cm long, 1.7 cm wide
76	1	Lithic	Granite	Small full-grooved axe finely polished 9.8 x 7.5 cm
75	1	Lithic	Granite	net sinker chipped on one side
77	1	Lithic	Granite	Tan granite possible hammerstone
73	1	Lithic	Granite	hammerstone
72	1	Lithic	Quartzite	tan quartzite hammerstone
74	1	Lithic	Rhyolite	Grey rhyolite hammerstone
111	1	Lithic	Rhyolite	Tan rhyolite lenticular biface midsection and tip
	1	Lithic	Rhyolite	dark grey rhyolite oval biface
	3	Lithic	Rhyolite	light grey rhyolite lenticular biface
	1	Lithic	Rhyolite	Very dark grey lenticular biface
	1	Lithic	Argillite	grey argillite Atlantic point
	1	Lithic	Argillite	grey argillite oval base biface/ drill
	1	Lithic	Rhyolite	dark maroon purple rhyolite Greene Point
	1	Lithic	Rhyolite	Grey rhyolite oval base biface
	1	Lithic	Rhyolite	Purple/ dark purple oval biface
	1	Lithic	Slate	Grey slate cobble, possible hammerstone
	1	Lithic	Quartzite	Grey quartzite Greene Point
	1	Lithic	Rhyolite	Very dark grey rhyolite biface

	1	Lithic	Quartzite	grey quartzite Greene point
	1	Lithic	Chert	grey/ dark grey chert oval biface
	1	Lithic	Rhyolite	dark grey oval biface
	1	Lithic	Rhyolite	very dark grey Greene Point
	1	Lithic	Rhyolite	very dark grey lanceolate biface
	1	Lithic	Rhyolite	very dark grey rhyolite Small Stemmed point
	1	Lithic	Rhyolite	maroon purple rhyolite Rossville Point
	1	Lithic	Rhyolite	Tan grey rhyolite lanceolate blade
	1	Lithic	Schist	Grey schist hoe, 11.7 x 3.8 x 6.4 cm, platey
	61			
Box 2				
	1	Shell	Channeled whelk	Recent
	1	Shell	Oyster	In shell 7.7 x 6.8 cm with small one on top, oval shape
	1	Shell	Channeled Whelk	Posterior of Whorl
	1	Shell	Quahog	6.8 cm diameter right side
	1	Shell	Quahog	7.5 cm diameter right side, dirt inside
	1	Shell	Quahog	7 cm diameter left side
	1	Shell	Surf clam	Umbo fragment
	4	Shell	Oyster	Shell fragments
	1	Shell	Sea Scallop	Shell fragment
	1	Shell	Bay Scallop	Shell fragment
	1	Shell	Surf Clam	Shell fragment
	1	Shell	Oyster	6.1 x 4.7 cm elongated with ribbed mussel attached
	1	Shell	Quahog	Shell fragment
	1	Shell	Moon snail	2.2 cm diameter
	1	Shell	Moon Snail	2.4 cm diameter
	1	Shell	Moon Snail	3.5 cm diameter
	2	Shell	Moon Snail	shell fragments
	1	Lithic	Steatite	Small fragment possible rim .6 cm thick
	1	Shell	Blue mussel	shell fragment burned
	1	Shell	Soft Shell clam	Chondrophore 8cm long, smooth exterior of shell
	1	Shell	Soft Shell clam	Chondrophore 9.1 cm long, smooth exterior
	1	Shell	Soft Shell clam	Chondrophore, 10.5 cm long, smooth exterior
	1	Shell	Soft Shell clam	Chondrophore, 9 cm long, thick shell, not much sculpting exterior
	1	Shell	Soft Shell clam	Chondrophore, 7.8 cm long, thick/ rough exterior
	1	Shell	Soft Shell clam	Umbo fragment
	1	Shell	Soft Shell clam	Umbo fragment
	1	Shell	Soft Shell clam	Umbo fragment
24	1	Lithic	Quartz	Decortification flake

21	1	Lithic	Rhyolite	Dark grey rhyolite triangular biface
22	1	Lithic	Rhyolite	Purple rhyolite stemmed knife/ blade
23	1	Lithic	Rhyolite	Grey rhyolite long blade
19	1	Lithic	Rhyolite	dark grey rhyolite long thick biface
20	1	Lithic	Rhyolite	dark grey rhyolite triangular biface
10	1	Lithic	Rhyolite	Dark grey rhyolite core
12	1	Lithic	Cryptocrystalline	Grey tan core
13	1	Lithic	Rhyolite	Very dark grey rhyolite core
14	1	Lithic	Rhyolite	dark grey rhyolite core of triangular biface
15	1	Lithic	Quartzite	Grey tan core or triangular to pentagonal preform
16	1	Lithic	Quartz	rectangular preform
17	1	Lithic	Rhyolite	Dark grey biface or triangular to pentagonal preform
6	1	Lithic	Slate	Grey core with cortex
7	1	Lithic	Quartzite	Tan grey core with cortex
8	1	Lithic	Steatite	bowl fragment
9	1	Lithic	Granite	Grey oval elongated biface
10	1	Lithic	Schist	Grey possible pecked on exterior, rectangular biface
4	1	Lithic	Rhyolite	Purple grey biface oval to lenticular
5	1	Lithic	Slate	Grey shaft abrader .7cm wide groove, on one side, three on other
1	1	Lithic	Granite	Tan oval biface 10.3 cm
2	1	Lithic	Rhyolite	Grey thick blade biface
3	1	Lithic	Rhyolite	Grey Brewerton eared point
105	1	Lithic	Rhyolite	Dark grey flat oval biface
103	1	Rock	Sandstone	Green grey flat oval
104	1	Rock	Quartz	Grey egg shaped rock
106	1	Rock	Sandstone	Brown oval rock
102	1	Rock	Sandstone	Brown egg shaped rock
107	1	Rock	Granite	Tan rock
32	1	Lithic	Steatite	Bowl fragment with lots of mica
33	1	Rock	Volcanic	Pebble- gastrolith?
34	1	Rock	Jasper	Pebble- Gastrolith?
35	1	Lithic	Slate	Grey, rectangular pendant with drilled hole, 6.2 x 1.4 x .3cm
25	1	Lithic	Rhyolite	purple grey oval biface/ preform
26	1	Lithic	Attleboro Red felsite	Tear drop shaped biface/ preform
27	1	Lithic	Granite	Grey/ green pestle 18.2 x 3.7 x 6.6 cm triangular in cross-section
28	1	Lithic	Argillite	Grey green possible oval biface

30	1	Lithic	Slate	Grey full grooved axe 14.7 cm long, broken
29	1	Rock	Slate	Purple fragment with modern drill hole in it
31	1	Lithic	Rhyolite	tan long leaf shaped biface 10.2 cm long
109	1	pottery	Sewer Pipe	Modern sewer pipe fragment
	1	Lithic	Hornfels	Dark grey biface fragment
	1	Lithic	Rhyolite	grey possible Stark base and midsection
	1	Lithic	Rhyolite	Green grey cd
	1	Lithic	Rhyolite	Maroon purple cd
	1	Lithic	Slate	Grey banded whetstone, rectangular 9 x 3.7 cm
	1	Lithic	Granite	Fragment, worked?
	1	Lithic	Slate	Grey whetstone, rectangular possible adze, ground edge
	1	Lithic	Rhyolite	Grey white banded cd
	1	Lithic	Argillite	Grey possible Otter Creek Base
	1	Lithic	Rhyolite	Very dark grey oval biface
	1	Rock	Coal	Fragment
	1	Rock	Quartz	Flat oval pebble
	1	Rock	Slate	Tan fragment
	1	Lithic	Sandstone	Very dark grey possible biface
	1	Lithic	Quartzite	Tan grey cd
	1	Lithic	rhyolite	Purple grey cd
	1	Rock	Coal	Fragment
	1	Lithic	Quartz	white thick Small Stemmed point
	1	Rock	Chalcedony	pebble
	1	Rock	Sandstone	Tan grey fragment
	1	Lithic	Graphite	Boomerang shaped, worked
	1	Rock	Coal	Fragment
	1	Rock	Slate	Grey tan pebble
	1	Rock	Slate	dark grey pebble with scratches
	1	Rock	Slate	long oval pebble
	1	Lithic	Rhyolite	dark purple grey small stemmed point, round base
	1	Lithic	Rhyolite	Grey cd
	1	Rock	Quartz	Small Chunk
	1	Lithic	Pennsylvania Jasper	Biface
	1	Lithic	Rhyolite	Grey full grooved axe 14.7 cm long
	1	Lithic	Rhyolite	purple grey biface/ knife tip and midsection
	1	Lithic	Chert	Tan Brewerton Corner notched point
101	1	Lithic	Rhyolite	grey biface with core, turtle back
	1	Lithic	Rhyolite	Purple oval end scraper

	1	Lithic	Quartzite	green grey triangular scraper
	1	Lithic	Quartz	possible uniface with cortex, turtle back
	1	Lithic	Quartz	triangular biface with cortex
	1	Lithic	Quartz	round uniface with cortex, turtle back
	1	Lithic	Quartz	oval biface/ preform
	1	Lithic	Quartz	steep edged uniface
	1	Lithic	Quartz	tear drop shaped biface
	1	Lithic	Quartz	steep edged uniface
	1	Lithic	Quartz	steep edge uniface
	1	Lithic	Quartz	oval biface/ preform
	1	Lithic	Quartz	triangular biface
	1	Lithic	Quartz	steep edged uniface
	2	Lithic	Quartz	thick round ended bifaces
	1	Lithic	Quartz	shatter fragment
	1	Lithic	Quartz	long small stemmed shaped preform
	1	Lithic	Quartz	steep edged uniface
	1	Lithic	Quartz	triangular biface
	8	Lithic	Quartz	steep edged unifaces
	1	Lithic	Quartz	rectangular uniface scraper
	1	Lithic	Quartz	Possible small stemmed or small rectangular biface
	1	Lithic	Quartz	possible Squibnocket triangle or small triangular biface
Box 3				
36	1	Rock	Sandstone	tan oval rock
37	1	Lithic	Rhyolite	Tan grey possible abrader or pecker
38	1	Lithic	Slate	Grey possible hammerstone
39	1	Rock	Slate	Oval pebble
40	1	Lithic	Quartzite	Beveled cobble abrader 11.5 cm long, Beveled 2 sides, pecked and ground
41	1	Lithic	Granite	possible Beveled cobble abrader, 13,2 x 2.3 cm
42	1	Lithic	Granite	Grey oval possible pounding stone for splitting cobbles
43	1	Lithic	Quartz	Smokey shatter
51	4	Lithic	Steatite	Bowl 1.4 to 1.9 cm thick
44	1	Lithic	Steatite	Small bowl, half complete, degraded/ pitted steatite, with lug handle 13 cm exterior diameter 11.2 cm interior diameter. 1,7cm base thickness, 3.5 cm diameter lug 2.1 cm high
45	1	Lithic	Steatite	Bowl fragment rim and body, 1.5 to 1.6 cm thick
46	1	Lithic	Steatite	degraded/ pitted steatite bowl fragment, 2 cm thick 28 cm exterior diameter 26 cm interior diameter

47	1	Lithic	Steatite	small bowl fragment, degraded/ pitted steatite 1.5 cm base diameter, 5 cm high possibly goes with 44
48	1	Lithic	Steatite	bowl fragment 1.1 to 2.1 cm thick
49	3	Lithic	Steatite	bowl fragments 1.5 cm thick oval shaped bowl
50	3	Lithic	Steatite	bowl fragments 1.5 cm thick, 1 piece with no pits, 1 with lots of pits
51	3	Lithic	Steatite	bowl rim fragments 1.2 -1.8cm thick large pits
52	1	Lithic	Steatite	small bowl unpitted steatite 5.5 cm high, 1.2 cm thick body, .7cm thick base, 14 cm exterior, 1.2 cm interior diameter
53	1	Lithic	Steatite	lug handle very pitted, body 1.7 cm lug 2.6 cm thick 5 cm wide, 20 cm exterior diameter, 18 cm interior diameter
	1	Lithic	Steatite	bowl body fragment 1.5 cm thick unpitted
54	2	Lithic	Steatite	bowl fragments, uneven body thickness 1-2.5 cm slight pitting, 10.5 cm long, 9.7 cm interior diameter 2.4 cm deep oval interior shape
	1	Lithic	Steatite	bowl fragment with drilled crack repair 1.5 cm thick hole .5 interior, 1.2 cm exterior diameter 1 cm long
	1	Lithic	Steatite	bowl fragment with drilled crack repair near rim hole .8 cm interior diameter 1.8 cm exterior 1.2 cm long with evidence of tie to hole on exterior, rawhide wore hole or groove was cut for thong to ride in, hole center 2.1 cm down from top of rim
	1	Lithic	Steatite	bowl fragment with drilled crack repair
	1	Lithic	Steatite	bowl fragment with drilled crack repair near rim hole .8 cm interior diameter 1.8 cm exterior 1.2 cm long with evidence of tie to hole on exterior, rawhide wore hole or groove was cut for thong to ride in, hole center 2.1 cm down from top of rim
	1	Lithic	Steatite	Bowl fragment with two repair holes, hole 1 has 1 cm exterior diameter .7 cm interior diameter and is 1.1 cm long, hole 2 has 1.2 cm exterior diameter and a .8 cm interior diameter and is 1 cm long with a groove for the rawhide on the exterior hole centers are at 2.5 and 6.6 cm down from rim
	1	Lithic	Steatite	Bowl rim fragment 1.4 cm thick 5 cm interior diameter 6 cm exterior diameter
	37			
Box 1	7	Pottery	Shell tempered	horizontal cord wrapped paddle marks on exterior right up to rim, .7 cm thick shell 20% of temper .5 to 1 cm dia, wiped interior rounded rim 18 cm exterior diameter 16 cm interior diameter
	1	Pottery	Shell tempered	undecorated exterior, squared rim slightly everted diagonal lines on rim top temper 10-15% of body rim .5 cm thick, temper .3-.5 cm diameter
	2	Pottery	Shell tempered	horizontal dentate design on exterior rim squared rim with diagonal lines 15-20% temper .3 to .5cm diameter shell, 18 cm exterior diameter, 15 cm interior

	4	Pottery	Shell tempered	dentate decoration on exterior square rim temper 10% of body .1-.3 cm diameter pieces of shell 26 cm interior diameter 28 cm exterior
	1	Pottery	Gravel tempered	Undecorated heavy temper everted rim .8 cm thick pieces, 50% temper 20 cm interior diameter 22 cm exterior diameter
	1	Pottery	Gravel tempered	Moderate temper 20-30% decorated with incised lines around rim
	1	Pottery	Gravel tempered	20% temper dentate design on exterior 2 dentate bands, .7 cm thick 22 cm exterior diameter 20 cm interior diameter
	1	Pottery	Gravel tempered	50% temper
	3	Pottery	Gravel tempered	20% temper with dentate exterior decoration 1 cm thick
93	2	Pottery	Pipe	4/64" diameter TD pipe
	1	Pottery	Pipe	4/ 64" diameter stem S 78 W. White /Glasgow Scotland
	1	Pottery	Pipe	stem McDougall/ Scotland
	1	Pottery	Pipe	Stem 4/64"
	1	Pottery	Pipe	18th century RT incised on bowl 5/64" Stem bore
108	1	Lithic	Rhyolite	large light purple core
	1	Lithic	Quartz	core with cortex
	1	Lithic	Granite	Tan Possible oval preform
	1	Lithic	Rhyolite	grey blade rounded base 10.5 cm long
	1	Lithic	Slate	Grey possible biface/ preform 10.5 cm long
85	24	Rocks	Rocks	
	2	Floral	Charcoal	Charcoal fragments
	12	Bone	medium Mammal	Burned longbone fragments
	1	Bone	Deer	Phalange 2 burned
	1	Pottery	Shell tempered	pot body fragment
	1	Lithic	Slate	Possible biface
	1	Lithic	Quartzite	grey green rectangular biface
	1	Lithic	Volcanic	very dark grey volcanic triangular biface
	1	Lithic	quartzite	tan rectangular biface
	1	Lithic	Argillite	Grey green drill tip
	1	Lithic	Chert	Black small stemmed point rounded base
	23	Lithic	Rhyolite	Dark grey cd
	2	Lithic	Rhyolite	Dark grey shatter with cortex
	6	Lithic	Rhyolite	Grey cd
	2	Lithic	Rhyolite	Grey shatter 1 with cortex
	11	Lithic	Rhyolite	dark purple grey cd
	1	Lithic	Rhyolite	Light purple grey core

	3	Lithic	Rhyolite	Purple cd
	1	Lithic	Rhyolite	Purple core
	1	Lithic	Rhyolite	purple grey cd
	2	Lithic	Quartzite	grey cd
	1	Lithic	Attleboro red felsite	cd
	1	Lithic	Saugus Jasper	cd
	1	Lithic	Rhyolite	Light purple pink cd
	1	Lithic	Volcanic	Tan grey banded cd
	1	Lithic	Rhyolite	light purple grey cd
	1	Lithic	Rhyolite	Purple oval ended biface
	1	Lithic	Quartzite	grey oval biface
	1	Lithic	Rhyolite	Purple grey small lenticular biface
	1	Lithic	Rhyolite	Grey rhyolite possible Orient Fishtail point
	1	Lithic	Rhyolite	grey lenticular biface
	1	Lithic	Rhyolite	Purple grey biface
	1	Lithic	Rhyolite	Grey biface
	1	Lithic	Rhyolite	dark purple oval biface
	1	Lithic	Rhyolite	light grey oval biface
	1	Lithic	Rhyolite	grey oval biface
	1	Lithic	Rhyolite	dark grey triangular biface
	1	Lithic	Rhyolite	Dark grey triangular biface
	1	Lithic	Rhyolite	Tan weathered blade
	1	Lithic	saugus jasper	possible brewerton corner notched
	1	Lithic	Argillite	Grey green Susquahannah Broad drill
	1	Lithic	Rhyolite	very dark grey triangular biface
	1	Lithic	Rhyolite	banded purple pink oval biface
	1	Lithic	Rhyolite	Grey oval biface
	1	Lithic	Rhyolite	Grey Meadowwood like point
	139	Lithic	Quartz	cd
	27	Lithic	Quartz	shatter fragments
	11	Lithic	Quartz	Levanna points
	1	Lithic	Quartz	Small Stemmed point
	2	Lithic	Quartz	Small biface blades
	1	Lithic	Quartz	Possible rounded ended scraper
	2	Lithic	Quartz	Steep edged scrapers
	6	Lithic	Quartz	Thick blocky bifaces
	1	Lithic	Quartz	rectangular biface
	2	Lithic	Quartz	Long triangular bifaces
86	1	Rock	Rock	

	1	Rock	Coal	fragment
	1	Bone	Deer	Metatarsal fragment
	2	Bone	medium mammal	Longbone fragments
	2	Bone	Medium Mammal	Longbone fragments burned
	1	Bone	Deer	Carpal
	1	Bone	Deer	sesamoid
	1	pottery	Shell tempered	fragment
	5	Rock	Rocks	
	1	Lithic	Granite	Possible pestle
	1	Lithic	Chalcedony	Possible channel flake
	6	Lithic	Rhyolite	Very dark grey cd
	2	Lithic	Rhyolite	Very dark grey shatter with cortex
	1	Lithic	Rhyolite	Purple cd
	2	Lithic	Rhyolite	Grey chipping debris with cortex
	6	Lithic	Rhyolite	dark grey cd
	1	Lithic	Rhyolite	Purple grey chipping debris
	1	Lithic	Rhyolite	Gray chipping debris
	1	Lithic	Rhyolite	dark purple chipping debris
	3	Lithic	Rhyolite	Light purple chipping debris
	2	Lithic	Rhyolite	green grey chipping debris
	1	Lithic	Rhyolite	purple red chipping debris
	1	Lithic	Slate	Purple chipping debris
	1	Lithic	Sandstone	red possible abrader
	1	Lithic	argillite	Green grey lenticular biface
	1	Lithic	Rhyolite	Purple grey thick biface
	1	Lithic	Rhyolite	dark grey chipping debris
	1	Lithic	Rhyolite	very dark grey large oval biface
	2	Lithic	Rhyolite	very dark grey triangular bifaces
	1	Lithic	Rhyolite	dark grey blade biface
	1	Lithic	Rhyolite	Purple grey curved biface
	42	Lithic	Quartz	Shatter fragments, 7 with cortex
	2	Lithic	Quartz	Crystals
	1	Lithic	Quartz	Pink chipping debris
	20	Lithic	Quartz	chipping debris
	4	Lithic	Quartz	blocky biface fragments
	1	Lithic	Quartz	round biface
	3	Lithic	Quartz	Levanna points

Box 9 All chert, obviously not local not catalogued

Box, Feature, 28 x 20 cm feature in a box, charcoal in center, quahog, oyster and soft shell clam present, periwinkle, deer bone, moon snail, scallop

Appendix B Allerton Collection

Bricks

- 1 10.4 x 6.6 cm vitrified exterior very thick large pebble inclusions sand marks 3 sides longitudinal strike mark
- 1 10.8 x 5.1 cm finer, sand marks on 3 sides one side rough longitudinal strike marks
- 1 fragment large inclusions
- 1 fragment finer smaller inclusions
- 1 sandy fragment
- 1 sandy fragment

Native Material

- 1 white quartz levanna 3.6 x 3.8 x .6cm
- 1 hornfels levanna 2.8 x 2.7 x .6 cm
- 1 grey rhyolite Levanna 3 x 2.6 x .3cm
- 1 grey normanskill chert drill tip 1.9cm wide at break .7cm thick
- 1 dark grey, grey banded rhyolite biface possible drill 4.7 x 2.2 x .8cm
- 1 dark maroon rhyolite biface 4.5 x 2.5 .7cm
- 1 grey maroon rhyolite with white phenocrysts greene point base and midsection 4.8 x 3.1 x .9cm
- 1 maroon rhyolite with white phenocrysts biface 4 x 2.7 x 1.3cm
- 1 grey quartzite stark or neville variant 4.4 x 2.2 x 1cm
- 1 2- hole gorget soapstone incised lines on both sides 3.7 x 2.7 x .4-.7cm.7cm dia holes
- 1 grey green argillite fragment 5 x 4.5 x .8cm 1 hole in it

Shell

- 1 quahog hinge
- 1 oyster shell fragment
- 1 surf clam fragment
- 1 soft shell clam fragment
- 1 surf clam hinge chondrophore
- 1 quahog shell fragment

Metal

- 1 lead alloy thin fragment curved at one edge
- 9 wire nails
- 9 Machine cut nails
- 8 Hand wrought nails
- 1 door latch 10 cm
- 1 clothing hook large 3.7 cm long
- 1 brass kettle scrap rounded with .5 cm hole
- 1 brass kettle scrap
- pitchfork 21.5 cm long 12 cm wide rectangular plug base
- stirrup 13.7 cm high, 12.5 cm wide, 7.8cm x 3.1 cm base, 3.5 x 1.5cm top .4cm thick base, .6 cm thick sides
- seal top spoon no wash 14.8 cm long, baluster 1.3 x 1.3 cm, mouth 5.5 x 4.6cm fleur-de-lis mark on spoon, right handed wear
- shovel 13 cm wide (originally was 15+ cm) 14.8cm length edges curved in, 2.9 cm dia socket
- King James I farthing on front- crown with MAG:BRI:CARO:D: on reverse- REX. Then unknown (glued on)1.5 cm dia copper
- lead bale seal 2cm dia IR on front, mermaids body on rear (woman with one arm up in air at least) cloth imprint on rear
- buckle 2.7 cm dia .6cm dia flower brass

Coal

- 1 piece coal

Glass

1 thick wine bottle glass
1 thinner bottle glass
1 thick wine bottle glass
1 thick wine bottle base fragment
1 thinner bottle glass
1 thinner bottle glass
1 thick wine bottle glass
1 thick wine
1 case bottle.3-.6cm thick
1 thick wine bottle
1 thinner vessel
1 thick wine bottle base
1 thin flat patinated .1cm
1 thin flat .5 cm
1 vessel neck 3.5 cm diameter
1 complete wine bottle, 15 cm high 6.2 cm high neck 2.8 cm dia mouth 12 cm body dia 1.3cm deep
base
3 wine bottle glass fragment

Clay pipes

1 stick with hollow middle
1 large belly bowl body fragment
1 body fragment
1 stem fragment
1 late 17th -18th century stem/ bowl juncture .25cm dia
1 belly bowl stem/ bowl juncture .35cm dia
1 buff color large belly bowl
1 pipe bowl heelless funnel .3cm dia bore 1.5 cm int dia bowl, 4cm high bowl rouletting on exterior

Ceramics

1 19th century whiteware fragment
1 calcined medium mammal longbone fragment
1 whiteware fragment
1 tin glazed vessel fragment
1 window glazing fragment
1 yellow slipware vessel base 5 cm dia

Flint

1 flint chunk 3.5 x 1.4 cm
1 grey flint flake

Flat glass

56 modern looking.2 cm thick
5 modern .2 cm
33 modern glass fragments
1 modern vessel glass
7 patinated .2, .2, .1, .1, .05, .05, .15 cm
1 patinated .2cm
1 .2 cm thick
1 rust fragment